BEFORE THE STATE OF NEW JERSEY
OFFICE OF ADMINISTRATIVE LAW

I/M/O THE PETITION OF NUI UTILITIES, INC	**)**	
D/B/A ELIZABETHTOWN GAS COMPANY	**)**	**BPU DOCKET NO. GR02040245**
FOR APPROVAL OF INCREASED BASE	**)**	**OAL DOCKET NO. PUC 3719-02**
TARIFF RATES AND CHARGES FOR GAS	**)**	
SERVICE AND OTHER TARIFF REVISIONS	**)**	

DIRECT TESTIMONY OF FRANK HOLLEWA
ON BEHALF OF THE
NEW JERSEY DIVISION OF THE RATEPAYER ADVOCATE

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I. BACKGROUND AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, OCCUPATION AND ADDRESS.

A. My name is Frank J. Hollewa. I am an independent energy consultant doing business as EPEC (Energy Planning and Engineering Consultants). My office is at 6182 Grovedale Court, Suite 100, Alexandria, Virginia, 22310.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL AND EMPLOYMENT EXPERIENCE.

A. I have operated EPEC for the past six years. During that time, I have participated in numerous cases for the New Jersey Division of the Ratepayer Advocate (Ratepayer Advocate), the Ohio Consumers' Counsel, the West Virginia Consumer Advocate Division, and the Michigan Residential Ratepayer Consortium.

Before I formed EPEC, I was employed by Washington Gas Light Company for 33 years until my retirement in 1996. I gained most of my knowledge and experience concerning the natural gas distribution industry on the job at Washington Gas Light. I began my employment with Washington Gas Light in 1963 as a clerk in the Gas Supply Department. I was promoted to the positions of Staff Assistant, Staff Supervisor, and Assistant to the Vice President, Gas Supply. In 1982 I became Vice President, Gas Supply, and in 1988 General Services and Information Systems were added to my responsibilities. In 1992 I was promoted to the position of Senior Vice President of Distribution, Gas Supply and General Services, the position I held at my retirement. The responsibilities of this position included the repair, installation and maintenance of all

transmission and distribution facilities; system design; system control; gas supply planning; gas acquisition; operation of the company's peak shaving facilities and storage fields; participation in Federal Energy Regulatory Commission (FERC) related matters; interface with the interstate gas pipelines; general structures maintenance and improvements; and motor vehicle fleet acquisition and maintenance. These functions encompassed approximately 50% of all employees at Washington Gas Light.

During the last 25 years of my employment with Washington Gas Light, I participated as an expert witness in approximately 20 formal rate proceedings before the Maryland Public Service Commission (PSC), the District of Columbia PSC, the Virginia State Corporation Commission, and the FERC. I have participated as a speaker and panelist at numerous industry gatherings. At the time of my retirement from Washington Gas Light, I was on the Board of Directors of the Associated Gas Distributors (AGD) and the Gas Industry Standards Board (GISB), as well as a member of the Institute of Gas Technology (IGT) Task force on Gas Quality.

II. INTRODUCTION AND SUMMARY OF CONCLUSIONS

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I have been retained by the Ratepayer Advocate to perform an independent analysis of the capital projects discussed in the Direct Testimony and Exhibits of Douglas A. Staebler on behalf of Petitioner, Elizabethtown Gas Company (Elizabethtown or Company). My analysis included a thorough review and emphasis on the "Supplemental

System Improvement Projects" detailed on his Schedule DAS-3, for which the Company is seeking recovery through a proposed System Improvement Adjustment Clause (SIAC).

Q. DID YOUR REVIEW INCLUDE AN EVALUATION OF THE COMPANY'S PROPOSED SIAC?

A. No. My review was limited to an engineering review of the Company's projected capital budget, including the projects proposed to be included in the SIAC. I made no judgments on the appropriateness of any ratemaking approaches or alternatives.

Q. WHAT DOCUMENTS HAVE YOU REVIEWED IN DEVELOPING YOUR EVALUATION?

A. In addition to Mr. Staebler's prefiled testimony, I have reviewed the Company's responses to data requests from the Ratepayer Advocate and the Staff of the Board of Public Utilities.

Q. WOULD YOU PLEASE SUMMARIZE YOUR CONCLUSIONS?

A. Based on my review, I have reached the following conclusions:

1. I have some concerns about the Company's proposal to increase the maximum pressures on approximately 64 miles of high-pressure (HP) mains in its Union division from the present 125 pounds per square inch gauge pressure (psig) to 249 psig. In view of the age of pipe involved and the population densities in the Union division, I believe it would be more prudent to limit the maximum pressures to 210 psig, which should be sufficient to maintain adequate pressure in the Company's distribution system in that division.

2. The Company's proposed "Supplemental System Improvement Projects" include a proposal to install 7.5 miles of new 16-inch main between Westfield and Kenilworth in the Company's Union division, at an estimated cost of $5 million. I believe this project is unnecessary. The proposed uprating of 64 miles of existing HP mains to 210 psig (as I recommend) should be sufficient to allow the Company to maintain adequate operating pressures in its Union division system.

3. The Company has provided adequate justification for the remaining projects to improve operating pressures on its system, that is, the Company's proposals to uprate the Woodbridge-to-Elizabeth section of its Union Division, and to upgrade the Edison/Metuchen and Hopewell distribution systems. However, the Company should be able to accommodate these projects within its normal provision in its capital budget for "Special Projects."

4. The proposed "Supplemental System Improvement Projects" include four projects to interconnect several different areas of the Company's system, at a total cost of $23.1 million. The Company claims that these projects are needed to increase reliability. I believe these projects are economically unjustified. These projects would improve the Company's system, but their cost is excessive given the number of customers affected, the small likelihood of a disruption in service even without these projects, and the cost of restoring service should a disruption occur.

5. The proposed "Supplemental System Improvement Projects" include a proposal to accelerate the replacement of the approximately 55 miles of cast iron mains that remain on the Company's system. Although I support the Company's efforts to replace cast iron mains, this is not an unusual or extraordinary project. The Company should be able to replace its remaining cast iron mains within a reasonable period of time within its normal capital budget.

III. CONCERNS ABOUT PROPOSED UNION DIVISION HP UPRATING

Q. WOULD YOU PLEASE GENERALLY DESCRIBE YOUR CONCERNS ABOUT THE COMPANY'S PROPOSAL TO INCREASE MAXIMUM ALLOWABLE PRESSURES IN ITS UNION DIVISION?

A. I have concerns about the Company's proposal to increase the maximum allowable operating pressures (MAOP) on approximately 64 miles of the existing High Pressure (HP) system in the Company's Union division. Given the age of the mains involved and the population density in that division, I believe it would be more prudent to increase the

MAOP to 210 pounds per square inch gauge pressure (psig), rather than the 249 psig proposed by the Company. This project is discussed at pages 19-21 and 28 of Mr. Staebler's testimony. The first phase, included in the Company's capital budget through November 30, 2002, is in the Woodbridge-to-Westfield section of the HP system. The second phase, included in the Company's proposed "Supplemental System Improvement Projects," is in the Westfield-to-Elizabeth section. (The proposed third phase, which involves installation of 7.5 miles of new mains, is discussed separately in a later section of my testimony.)

Q. WOULD YOU PLEASE BRIEFLY DESCRIBE THE REASONS FOR THIS PROJECT?

A. Elizabethtown, like other gas distribution companies, operates a distribution system that includes distribution mains of different sizes, operated at varying pressures. As explained at pages 19-20 of Mr. Staebler's testimony, the HP system, consisting of mains operated above 60 psig, forms the backbone of the Company's system. The HP system is connected directly to points of interconnection with the interstate gas pipelines, known as "gate stations." The pressure available for delivering gas to the Company from the interstate pipelines ranges from approximately 300 to 500 psig. At the gate stations, normal and monitor regulators are used to drop the pressure and feed the gas into the HP system at 125 psig, the current MAOP. At strategic points in the system, other regulator stations drop the pressure further to feed the Elevated Pressure (EP) system which operates at intermediate pressures, and the Low Pressure (LP) system, which delivers gas to end users. The actual pressure at any specific location is a function of the size of the

main, the distance from the point where the gas was delivered into the system, and customer load. In recent years, the Company has experienced difficulty in maintaining adequate pressures in certain areas of the distribution system serving the Union division during periods of peak usage.

Q. WOULD YOU PLEASE DESCRIBE THE PROJECT?

A. To remedy the pressure problems, the Company is proposing to increase operating pressures on part of the HP system in the Union Division above the current MAOP of 125 psig. Although the Company has budgeted for replacement of some mains, the project consists primarily of performing the testing required under United States Department of Transportation (DOT) regulations to increase the MAOP of existing mains, known as "uprating."[1]

Q. WHAT ARE YOUR CONCERNS ABOUT THE PROPOSED UPRATING?

A. Elizabethtown is proposing to uprate portions of its HP system to 249 psig from the current 125 psig. However, 249 psig may be above the MAOP allowed under DOT regulations for some of the Company's 12-inch mains. Specifically, I have calculated the MAOP for these mains at 240 psig.[2] I am also concerned that much of the 12-inch and 16-inch main to be uprated is approximately 40 years old. In my experience with Washington Gas Light, I found that many engineers recommended proceeding with caution in uprating older pipe. When I had responsibility for this type of decision at

[1] 49 *C.F.R.* 192.551 to .557.

[2] The Company has identified most of the 12-inch mains involved in the uprating project as API 5L Grade B wrapped steel, with a 0.219-inch wall. Assuming a yield strength of 35,000 psi, this would result in a pressure of 1202 psig at 100% yield (*i.e.* the point at which the pipe would fail). Under the DOT's regulations in 49 *C.F.R.* Part 192, distribution mains must be operated less than 20% yield, which would correspond to a MAOP of approximately 240 psig.

Washington Gas Light, I followed a practice of uprating only to the pressures needed to maintain adequate operating pressures in the affected areas of the company's distribution system. I believe this is the more prudent practice, especially in areas as densely populated as Elizabethtown's Union division. I note also that, under *N.J.A.C.* 14:7-1.4, a separate petition and Board approval is required for any gas pipeline operating at a maximum pressure in excess of 250 psig within 100 feet of any building intended for human occupancy. Although *N.J.A.C.* 14:7-1.4 does not technically require a petition and Board authorization for the proposed uprating to 249 psig, I believe this regulation shows a need for caution at pressures approaching 250 psig.

Q. WHAT MAXIMUM PRESSURE DO YOU RECOMMEND FOR THE PROPOSED UPRATING?

A. I would recommend a MAOP of 210 psig. I believe this should be sufficient to provide adequate operating pressures throughout the Company's system. In its responses to Ratepayer Advocate discovery requests RAR-EP-30 and 31, the Company provided the results of a computer model showing the operating pressures at various points on its distribution system during peak load conditions. The computer model provided for outlet pressures from the various gate stations ranging from 210 psig to 225 psig, and did not use 249 psig. The only gate stations with pressures above 210 psig were the Woodbine and Cloverleaf Gate Stations, where the computer model showed outlet pressures of 220 psig, and the Scotch Plains Gate Station, with an outlet pressure of 225 psig. Based on my review of the company's responses to RAR-EP-30 and 31 and my experience with distribution system operation, I believe that reducing the maximum outlet pressures at

these three locations would not materially affect the Company's expected outcome of improving system pressures to adequate levels.

IV. NEED FOR "SUPPLEMENTAL SYSTEM IMPROVEMENT PROJECTS"

Q. WOULD YOU PLEASE SUMMARIZE THE PROJECTS INCLUDED IN THE "SUPPLEMENTAL SYSTEM IMPROVEMENT PROJECTS" LISTED IN MR. STABLER'S SCHEDULE DAS-3?

A. Schedule DAS-3 lists ten different projects, with a total estimated cost of $40.817 million, divided into three categories: "Delivery," "Reliability," and "Integrity/Security." The four projects listed under the "Delivery" category are projects which Mr. Staebler states are needed to enhance the Company's ability to deliver gas at adequate pressures. The four projects listed under the "Reliability" section are, as explained at page 27-28, designed to eliminate areas served by a feed from a single gate station, or by only one interstate pipeline. The "Integrity/Security" category lists two projects to accelerate the planned replacement of cast iron mains. This category also includes possible future security-related projects that may be identified as a result of the work of the New Jersey Domestic Security Preparedness Task Force. However, Mr. Staebler states at page 34 of his testimony that no such projects have been budgeted beyond November 30, 2002, and therefore no specific projects are listed on his Schedule DAS-3.

A. "DELIVERABILITY" PROJECTS

Q. WOULD YOU PLEASE DESCRIBE THE "DELIVERABILITY" PROJECTS LISTED IN SCHEDULE DAS-3?

A. Four projects are listed under this category:

1. **Union HP Project Sect. 2: Woodbridge – Elizabeth System.** The proposed uprating of the Woodbridge to Elizabeth section of the Union HP system is the second phase of the Union HP project discussed above. This project has an estimated cost of $5.2 million.

2. **Union HP Project Sect. 3: Westfield – Kenilworth 16" HP Loop.** The Company is proposing to implement a third phase of the Union HP project, which would involve the construction of 7.5 miles of new HP 16 inch mains from Westfield to Kenilworth in the Union Division. This project has an estimated cost of $5.0 million.

3. **Edison/Metuchen EP Upgrades.** To remedy low pressures in the Company's EP system in Metuchen, the Company is proposing to install 2.5 miles of new 8-inch high pressure mains and a new regulator connecting this main to the elevated pressure system in this area. This project has an estimated cost of $1.4 million.

4. **Hopewell Distribution System.** The Company is proposing an estimated $500,000 in improvements to remedy pressure problems in the Hopewell area of the Company's Northwest division.

Q. WHAT ARE YOUR CONCLUSIONS AS TO THE NEED FOR THE "DELIVERABILITY" PROJECTS?

A. Based on the materials provided in response to Ratepayer Advocate and Staff discovery requests, I have concluded that the Company has adequately documented the need for Projects 1, 3, and 4. I note that my concerns discussed in Section III of my testimony apply to Project 1 listed above, the proposed uprating of the Woodbridge to Elizabeth section of the Union HP system. An uprating to 210 psig should be sufficient to assure

adequate pressures on this section of the Company's distribution system. Project 2 listed above, the installation of 7.5 miles of new 16-inch main, has not been adequately justified. The Company should be able to accommodate the remaining projects within its normal budget provisions for "Special Projects."

Q. WOULD YOU PLEASE COMMENT ON PROJECT 2, THE PROPOSED WESTFIELD-KENILWORTH LOOP?

A. This project would involve the installation of 7.5 miles of 16-inch main to connect the areas of the Company's Union division served by gate stations in Woodbridge with the areas served by gate stations in Elizabeth. The Company's response to Ratepayer Advocate discovery request RAR-EP-13 states that this project was designed to increase deliverability. However, based on the results of the computer model provided in response to Ratepayer Advocate discovery requests RAR-EP-30 and 31, it appears that this project is not needed to assure adequate operating pressures in the affected areas. These discovery responses show expected operating pressures under peak load conditions "before" and "after" the installation of the proposed new main. The responses to RAR-EP-29 and 30 clearly show that adequate operating pressures will be achieved as a result of the first two phases of the Union HP project, *i.e.*, the uprating of 64 miles of existing mains in the Woodbridge-to-Westfield and Woodbridge-to-Elizabeth sections of the system. The Company's model shows that the proposed new main would result in very minor improvements to system pressures, except in a small section currently fed from the North Avenue Gate Station. In this small section, the model shows an increase from 100 psig (RAR-EP-29) to 185 psig (RAR-EP-30) as a result of the uprating, and a further

increase to 202 psig (RAR-EP-31) with the installation of the new main. Based on the results of the model, it appears that the increase to 185 psig will be sufficient to assure adequate pressures in this area of the Company's system, which appears to have very little load. Based on this information, I conclude that the uprating alone is more than sufficient for an area described by the Company as experiencing modest but steady growth. The Company has not adequately justified the $5 million cost of the proposed Westfield-to-Kenilworth loop project. (Copies of the Company's responses to RAR-EP-29, 30 and 31 are attached to this testimony as Schedule FJH-1.)

Q. WOULD YOU PLEASE COMMENT ON THE COMPANY'S ABILITY TO ACCOMMODATE PROJECTS 1, 3 AND 4 WITHIN ITS CAPITAL BUDGET?

A. Mr. Staebler's Schedule DAS-1 indicates that the Company's fiscal year 2002 capital budget includes $2.43 million for "Special Projects." The Company's response to the Ratepayer Advocate's discovery request RAR-EP-5 states that this category includes the following projects listed on Mr. Staebler's Schedule DAS-2: the Pennington Station Upgrade, the Hopewell Borough Loop, the Union/Elizabeth HP uprating, and the North Avenue Westfield EP tie in. These are the same types of projects as Projects 1, 3 and 4 described above. These projects have a total estimated cost of $7.1 million. The Company could complete these three projects within a reasonable time if it were to continue budgeting for "Special Projects" at the same level shown for the 2002 capital budget. If these projects are deemed critical to complete by the end of fiscal year 2004 as indicated on Schedule DAS-3, it could defer less critical expenditures in other areas.

B. "RELIABILITY" PROJECTS

Q. WOULD YOU PLEASE DESCRIBE THE "RELIABILITY" PROJECTS LISTED IN SCHEDULE DAS-3?

A. There are four projects in this category, all located in the Company's Northwest division. The total estimated cost of these projects is $23.1 million or approximately 57% pf the total represented on Schedule DAS-3. The following are brief descriptions of these projects:

1. **Clinton-Pennington HP Interconnect and Gate Station.** This project would create interconnections linking the Company's Clinton, Ringoes, and Pennington Gate Stations. The estimated cost of this project is $5.8 million.

2. **Franklin-Sparta Interconnect.** This project would create a high-pressure "loop" connecting the Company's Sussex and Vernon Gate Stations. This project has an estimated cost of $3.8 million.

3. **Hackettstown-Newton Interconnect.** This project would link the loop created by the Franklin-Sparta interconnection (Project 2 above) with a small area in Hackettstown and the surrounding communities. This is the most expensive project listed on Schedule DAS-3, involving the installation of 20 miles of new high-pressure mains from Newton to Hackettstown, at a cost of $12 million.

4. **Lambertville Interconnect.** This project would link the proposed Clinton-Pennington loop (Project 1 above) with the area around Lambertville. This project has an estimated cost of $1.5 million.

In its responses to Ratepayer Advocate discovery request RAR-EP-20 the Company has provided 4 schematics showing its system before and after the proposed projects. (A copy of this discovery response is attached to this testimony as Schedule FJH-2.)

Q. DO YOU HAVE ANY GENERAL COMMENTS ON THE PROPOSED "RELIABILITY" PROJECTS?

A. Yes. Elizabethtown has not adequately justified these projects. Their costs are greatly out of proportion to the expected benefits. As noted above, the "Reliability" projects are all designed to eliminate areas of the Company's system that are served by a single feed from an interstate pipeline, or that are served by only one pipeline. As explained in the Company's response to Ratepayer Advocate discovery request RAR-EP-17, these projects would provide the affected areas with an alternate source of supply in the event of a service disruption caused by events such as a disruption in supply from one of the two interstate pipelines supplying the Company, or damage to an interconnection between a gate station and the Company's distribution system, or a mechanical failure at the gate station itself. Based on my experience, these types of risks are no greater than are borne by most other distribution companies in the country. In my experience, there are many areas in the systems of every natural gas distribution company that are fed by a single interconnection with an interstate pipeline or by multiple connections with a single pipeline. There are many smaller companies that have only one pipeline serving their entire service territory. In an ideal world, all customers would be served by redundant sources of supply. However, economic realities must be considered in evaluating the expenditures that would be necessary to accomplish this.

One way to view the cost of a capital project is to consider its annual cost per affected customer. Mr. Staebler states at pages 30 to 33 of his testimony that a total approximately 17,800 customers would be benefited by the four projects listed above.

When I was an officer at Washington Gas Light I applied a rough "rule of thumb" that the annual revenue requirement of projects such as these was approximately 20% of the cost of the project. Applying this rough estimate to these four projects would result in a revenue requirement of approximately $4.62 million per year, or approximately $260 per customer per year for the 17,800 customers expected to benefit. I am certain that this rough estimate could be refined by the economists and accountants involved in this case, but I believe it is clear that these projects represent an extremely costly response to risks that are no greater than those being borne by most other distribution companies in the country. Further, the costs of these projects appear to be much higher than the costs that would result from the "worst case scenario" mentioned at page 27 of Mr. Staebler's testimony, an interruption in service that would require the Company to rely on outside assistance to restore service.

I note also that the Company has already taken reasonable measures to reduce the risks of a severe interruption in natural gas service. The Company has followed a practice of constructing relatively small gate stations serving smaller areas, rather than building one large system served by a single large gate station. This reduces the number of customers affected by a disruption in supply from a single gate station. To prevent service disruptions resulting from an equipment malfunction at a gate station, I am sure Elizabethtown has followed the usual practice of installing a manual bypass. As an indication of the effectives of a manual bypass, during my employment at Washington Gas Light we experienced an explosion that completely disabled a gate station, with no interruption in service to customers. Finally, there are some risks that cannot be

addressed by the types of projects Elizabethtown is considering. For example, a major disruption in supply from one of the two pipelines serving the Company would have consequences far beyond the limited areas affected by the above four projects.

Overall, I believe that the Company has not provided adequate justification for any of the "Reliability" projects. A brief analysis of the individual projects follows.

Q. WOULD YOU PLEASE COMMENT ON THE PROPOSED CLINTON-PENNINGTON INTERCONNECTION?

This project involves approximately 4,700 customers served through three gate stations in Hunterdon and Mercer Counties. The Clinton Gate Station, in northern Hunterdon County, is supplied by Transco. The Pennington station, approximately 23 miles to the south in Mercer County, is also supplied by Transco. The Ringoes station is situated between the other two in southern Hunterdon County and is supplied by Texas Eastern. The Clinton and Ringoes Gate Stations supply two contiguous areas in Hunterdon County. As indicated in the Company's response to Ratepayer Advocate discovery request RAR-EP-33, these two areas are already linked by a high-pressure interconnection. The Company is proposing to extend this connection south to the Pennington gate by increasing the operating pressures of approximately 7 miles of mains in the area served by the Ringoes Gate Station and installing another 11 miles of high-pressure mains between the Ringoes and Pennington Gate Stations.

Based on my rough estimation methodology, the $5.8 million cost of the proposed Clinton-to-Pennington interconnection equates to an annual revenue requirement of approximately $1.16 million annually, or approximately $247 per customer for the 4,700

affected customers. I note also that, based on the Company's response to RAR-EP-33, the customers served by the Clinton and Ringoes Gate Stations already have a redundant source of supply. The primary beneficiaries of this project appear to be the smaller number of customers in and around Pennington who are served through the Pennington Gate Station. The cost of the proposed interconnection is many times any reasonable estimate of cost that would be incurred to restore service to these customers in the unlikely event of a service interruption.

Q. WOULD YOU PLEASE COMMENT ON THE PROPOSED FRANKLIN – SPARTA INTERCONNECTION?

A. This project would affect approximately 3,100 customers currently served by a single feed from the Company's Sussex Gate Station Wantage Township.[3] The Company is proposing to create a high-pressure "loop" by uprating approximately 6 miles of mains in the area served by the Company's Vernon gate and installing another 6 miles of high-pressure main to connect the two systems. The two gate stations are located approximately three miles apart on the same Tennessee pipeline. This project is difficult to justify as a stand-alone project. The benefits of providing redundant sources of supply from two gate stations located only three miles apart along the same interstate pipeline are questionable at best, and certainly not sufficient to justify the estimated $3.8 million cost. This project appears to have been planned as a component of the Newton-Hackettstown interconnection, which would provide an alternate source of supply to the combined systems. The economics of the combined projects are discussed below.

[3] The number of customers was estimated at 4,300 in Mr. Staebler's prefiled testimony, but this was corrected to 3,100 in Company's response to the Ratepayer Advocate's data request RAR-EP-23.

Q. WOULD YOU PLEASE COMMENT ON THE PROPOSED HACKETTSTOWN-NEWTON INTERCONNECTION?

A. In this project, discussed at page 32-33 of Mr. Staebler's testimony, the Company is proposing to install 20 miles of high-pressure mains to connect the Franklin-Sparta interconnection with another area supplied by the Transco and Columbia pipelines. According to Mr. Staebler, the purpose of this interconnection is to provide an alternate source of supply to the approximately 7,300 customers currently served via the Sussex and Vernon Gate Stations in Sussex County. The estimated cost of this project is $12 million. This results in a combined cost of $15.8 million to provide an alternate source of supply to approximately 7,300 customers. Using my "rule of thumb," this equates to an annual revenue requirement on $3.16 million, or $433 per customer. This cost is far out of proportion to any costs that would be incurred in the event of a major supply disruption on the Tennessee pipeline, which could be characterized as a once in a lifetime event, if that. Furthermore, disruption of service on a major pipeline during a period of peak usage would cause serious supply problems on a regional level. It is unlikely that the proposed interconnection could prevent a disruption in service under these conditions.

Q. WOULD YOU PLEASE COMMENT ON THE PROPOSED LAMBERTVILLE INTERCONNECTION?

A. This project, discussed at pages 33-34 of Mr. Staebler's testimony, would create an interconnection between the proposed Clinton-Pennington interconnection (project no. 1 discussed above), and a system serving approximately 1,500 customers in the Lambertville area. According to Mr. Staebler's testimony, this project would provide an

alternate source of supply to these 1,500 customers, who are currently served via a single feed from the Ringoes Gate Station. This is the most modest of the four "reliability" projects listed on Schedule DAS-3, with an estimated cost of $1.5 million. This equates to an annual revenue requirement of roughly $300,000, or $200 per customer. Although this cost is less dramatic than the cost of the other "reliability" projects, I still believe that it is not adequately justified. To put this project in perspective, the Company's response to the Ratepayer Advocate's data request RAR-EP-23 states that the one-way feed from the Sussex Gate Station, serving 3,100 customers, and the one-way feed serving 1,500 customers in the Lambertville area, are the two largest in Elizabethtown's system. Based on my experience, most other gas distribution companies have larger areas served by one-way feeds.

I note also that Elizabethtown apparently has not considered possible alternatives to this project. The Company's response to Ratepayer Advocate discovery response RAR-EP-21 states that "[n]o other viable alternatives were determined to exist or examined." The schematics provided by the Company in response to Ratepayer Advocate discovery request RAR-EP-21 shows that the one-way feed serving the Lambertville area crosses the Texas Eastern pipeline in Stockton Borough. Installation of a minor gate station would provide an alternative source of supply at less cost than construction of 5.15 miles of new mains. I am not recommending this alternative for a system serving only 1,500 customers in an area of approximately 2% annual growth, but I am noting it as an indication of the Company's failure to fully evaluate the economics of this project.

C. "INTEGRITY/SECURITY" PROJECTS

Q. WOULD YOU PLEASE DESCRIBE THE "INTEGRITY/SECURITY" PROJECTS LISTED ON SCHEDULE DAS-3?

A. There are two projects listed in this category, both involving the replacement of the approximately 55 miles of elevated pressure cast-iron (EPCI) mains remaining on the Elizabethtown's system. The two projects are as follows:

1. **Accelerated 4" and 6" EPCI Replacement.** The Company is proposing to replace its remaining 4" and 6" mains under an accelerated schedule.

2. **Replacement of 8" and 10" EPCI in Business Districts.** The Company is proposing to replace 3.5 miles of larger cast-iron mains located in business districts during fiscal year 2006.

As noted above, the no specific "security" projects are listed on Schedule DAS-3, because none have been budgeted at the present time.

Q. WOULD YOU PLEASE DISCUSS THE COMPANY'S SPECIFIC PROPOSALS?

A. Mr. Staebler discusses these proposals at pages 34-35 of his prefiled testimony. With regard to the first project, he states that the Company has budgeted the replacement of 8 miles per year of 4" and 6" EPCI mains during fiscal years 2003 through 2006. He states further that continuing on this same schedule would result in replacement of all of this type of pipe by the end of the Company's 2008 fiscal year. The Company is proposing to add additional "3 to 4 miles per year" to the amounts budgeted for fiscal years 2003 through 2006, so that the replacements can be completed in 2006 rather than 2008. Schedule DAS-3 indicates an estimated cost, assuming the replacement of an incremental 4 miles per year, of $4 million.

The second proposed project is the replacement of 3.5 miles of 8" and 10" cast iron mains located in certain "business districts." Mr. Staebler states at page 35 of his prefiled testimony that this project is necessary due to "circumferential cracking in our 8" CI piping."

I support the Company's efforts to replace its cast iron mains. However, there is nothing unusual or extraordinary about these projects. Elizabethtown should be able to accommodate these projects as part of its regular capital budget.

Based on the Mr. Staebler's testimony that the Company is planning to replace 8 miles of cast iron main per year beginning in fiscal year 2003, the replacement of all of the cast iron mains mentioned in his testimony could be completed by the end of fiscal year 2008. Further, Mr. Staebler may be understating the amount of replacements that can be accommodated as part of the Company's regular capital budget. At page 22 of his testimony, Mr. Staebler states that "[w]e have been replacing an average of 8 to 10 miles of this pipe per year …", rather than the 8 miles per year mentioned at page 35. At a rate of 10 miles per year, these projects would be completed in 2007.

Assuming the Company's current program addresses the sections with the highest incidence of leaks first, I see no reason for the proposed acceleration. In this regard, I note that, according to Schedule DAS-3, the replacement of the larger cast iron mains located in business districts is planned for fiscal year 2006, indicating that the Company does not consider this project to be particularly urgent.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.