

**BEFORE THE
OHIO POWER SITING BOARD**

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In the Matter of the Certificate Application
Rachel 138 Kv Transmission Line Project

) Case No. 95-600-EL-BTX
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**INITIAL BRIEF OF
CITIZENS FOR A BETTER WAY**

***AND THE PEOPLE IN IT [GEAUGA COUNTY] GET UP IN THE
MORNING AND LOOK AT THE AIR AND LOOK AT THE LAND AND
LOOK AT THE BEAUTY, AND THEY FEEL GOOD, AND THAT'S WHAT
MAKES US STRONG AND MAKES US GLAD TO BE ALIVE, AND I ASK
YOU NOT TO DESTROY THAT.***

STATE REPRESENTATIVE GRENDALL, TR VOL. 1 AT 102.

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**ON BEHALF OF CITIZENS FOR A BETTER
WAY**

FILED: FEBRUARY 21, 1997

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**INITIAL BRIEF OF
CITIZENS FOR A BETTER WAY**

I. PROLOGUE

This case is not about CEI coming together with the community to find a workable solution that everyone can live with. Rather, it is about CEI ramming a 138 Kv transmission line down the back yards of over 400 affected residential customers against their volition and against all reason. The inhabitants of Geauga County should be given the right to determine their destiny and what is best for them. On the one hand, there is Cleveland Electric Illuminating Company (CEI) advocating the construction of 8.9 miles of 138 Kv transmission lines through residential properties, woods, wetlands, and streams. The parties supporting CEI in its quest for approval of the transmission line are the industrial customers who claim to be experiencing low voltage problems. These industrial customers do not reside within the community that will be affected by the negative adverse environmental impacts of the line.¹ Also supporting CEI's position for the "preferred" line are a handful of residential customers who live either along the alternative route or along Route 608 who fear the construction of a 138 Kv line down their own backyards. For

¹ As will be discussed infra, there are other reasonable alternatives available that will provide the industrials with the support that they need.

further support of its proposal, CEI points to its Citizens Advisory Committee (CAC) which consisted of a grand total of eight individuals, only one of whom resides in the affected area. Tr. Vol. VII at 14. As some of the public testimony reveals, the eight individuals were not very conversant or informed as to other alternatives or options. One public commenter stated as follows about his knowledge of the CAC:

Concerning the advisory committee, in the application, in numerous testimonies and in the newspaper, CEI and others have mentioned the Citizens Advisory Committee as the source of determining factors for the acceptance or rejection of proposed routes. Who were these committee members and what was their input?

The minutes of CEI's meetings with this group have never been published. We have only CEI's version of the committee's opinions. According to the two members I've heard from, their input was minimal and they were orchestrated into drawing certain conclusions by CEI. Their only expertise in the field of route selection was that they were residents of Geauga County. Id. at 97-98.

Regarding the public discussions, CEI has taken pains to point out that it tried to get the public's input about the two proposed routes, but it did not believe we, the public, could discuss anything about these lines in an open forum with CEI.

The open house was only to allow CEI's representatives the opportunity to try and convince individuals how wonderful these lines would be for them. We never had the chance as a group of homeowners, as we are all here tonight, to discuss anything with CEI.

CEI has convinced themselves that they are responsive to the community and yet they state in the application that a widespread acceptance from local property owners would be difficult to achieve regardless of need. Why is this so? Because people do not see the need and they do not feel their views have been represented or heard. Id. at 98-99.

On the other side, in opposition to the 138 Kv transmission line are the numerous residents and public officials in Geauga County. Resolutions opposing the construction of the 138 Kv transmission line in Geauga County were passed by several of the affected local government utilities including: Claridon Township, the Village of Chardon, Hambden Township, and the Geauga County Park District. In addition to these public officials who are elected to represent the best interest of its community, are the over 300 residential customers who signed petitions opposing the 138 Kv transmission line as well as the many customers who funded the full intervention in this case. At the public hearing, over 90 individuals signed up to testify and voice their concerns and opinions with regard the 138 Kv line. No one, except the industrial customers, were unequivocally in support of 138 Kv transmission lines being constructed in Geauga County.

Siting decisions cannot be made in a vacuum. The Ohio Power Siting Board (OPSB) has an obligation to consider the concerns of the public and to give very close scrutiny to the viability of other alternatives. The OPSB should not be rushed into a bad decision because CEI and the industrial customers claim that time is of the essence. The record demonstrates that these problems have existed for 20 years. It is totally unfair, inappropriate, and poor management and planning on the part of those who would seek to have the line built now, to thrust an ill-conceived, poorly developed alternative upon the longstanding, good citizens of Geauga County because CEI and the industrial customers failed to do their homework and failed to respond earlier in a more reasonable fashion. CEI and the industrialists seek to solve their problems at the expense of the citizens of

Geauga County. As demonstrated by the numerous testimonials of the public, this 138 Kv power line should not be constructed. Appended to this brief are some of their comments.

II. INTRODUCTION

On June 26, 1995, CEI submitted its original application in this proceeding. On August 29, 1995, the Staff (Staff) of the OPSB found that the application was incomplete. CEI then filed supplements to the application in December, 1995 and again in January, 1996. Almost one year after the submission of its original application, on May 6, 1996, CEI filed an updated application which replaced the original application in its entirety. This application was found to be complete on June 20, 1996. On August 13, 1996, Citizens for a Better Way (Citizens) filed its Intervention in this proceeding. On October 23, 1996, the Staff submitted its Staff Report of Investigation. On November 1, 1996, expert testimony was filed by the various parties to this proceeding.

On November 7, 1996, a public hearing was held in Chardon, Ohio which was attended by more than 200 people. Over 90 people testified to voice their concerns regarding the 138 Kv transmission line. On December 23, 1996, CEI filed the supplemental testimony of Mr. Theodore Krauss which set forth adjustments to the preferred route as an alternative.² On November 12, 1996, the adjudicatory hearing commenced and was concluded on January 29, 1997 with the surrebuttal testimony of Citizens witness Mr. David Blecker.

² It should be noted that upon cross examination of both CEI witness Theodore Krauss and staff witness Ron Yerian, neither CEI nor the Staff would claim responsibility for offering this proposal as their own.

This proceeding for the construction of an 8.9 mile 138 Kv transmission line traversing private properties, wetlands, pristine streams and mature forest has been guided by Section 4906.10(A) Ohio Revised Code which states in pertinent part:

The Board shall not grant a certificate for the construction, operation and maintenance of a major utility facility, either as proposed or as modified by the Board unless it finds and determines:

1. the basis of the need for the facility;
2. the nature of the probable environmental impact;
3. that the facility represents the minimum adverse environmental impact considering the state of available technology and the nature and economics of the various alternatives and other pertinent consideration.³

Citizens for a Better Way requests that OPSB not grant CEI's certificate for construction of any 138 Kv lines in Geauga County. Rather, Citizens recommends that the Board:

1. Require CEI to conduct a new and correct energy forecast to more accurately define the need in Geauga County.
2. Require CEI to seriously consider distributed generation of an appropriate size to meet the actual projected need and to conduct reasonable and detailed studies, including but not limited to, load flow studies with regard to this alternative, including an investigation as to appropriate available sites for locating such a facility.

³ There are in fact eight criteria that must be considered by the Ohio Power Siting Board; however, the focus of Citizens for a Better Way's intervention rests with the first three criteria quoted in full above.

3. As a second alternative, require CEI to seriously investigate and analyze the option of constructing 36 Kv lines along the corridor of Route 608 where there currently are existing lines.

III. STATEMENT OF THE ISSUE

Located within the largely rural county of Geauga is the village of Middlefield which contains a cluster of industrial companies. For the last several years, and by some accounts for the last 20 years, the industrial customers in the Middlefield area have been experiencing voltage swings of greater than plus or minus 5%. According to the industrial customers, these voltage swings have caused them financial losses.

In the early 1990s, CEI decided to do something about these voltage swings. It performed a load forecast to determine the capacity needs for the Geauga County area and determined that a 138 Kv transmission lines and a 138-36 Kv substation should be constructed. The Staff concurred that a need had been demonstrated but undertook no separate investigation to quantify the magnitude of the need nor the magnitude of the solution to meet the need.

CEI identified the need as being three-fold:

- ▶ Voltage Support
- ▶ Capacity Support
- ▶ Reliability

Citizens intervened in the proceeding and opposed the 138 Kv solution due to its adverse impact on the quality of life of the residents of Geauga County. Citizens opposition also focused on the environmental damage to wetlands, pristine streams and old forest.

Citizens has reviewed the load forecast of CEI and found it lacking and incapable of demonstrating a quantifiable need. Citizens recognizes that, nevertheless, there is some need in the Middlefield area and offered two alternatives to provide a strong source of power to Geauga County. These two alternatives are:

- ▶ Installation of a properly sized distributed generation unit (combustion turbine) located at an appropriate site considering load centers and existing infrastructure.
- ▶ Construction of a 138 to 36 Kv transformer underneath the Mayfield-Ashtabula transmission line from which 36 Kv lines could run along Route 608 on the same corridor where 4.8 Kv lines currently exist and connect to the Geauga County distribution system to provide sufficient reinforcement to the area.

CEI expended considerable effort using the science of smoke and mirrors to repudiate these viable and superior alternatives.

In order to reach a fair, just and reasonable solution, two questions must be answered:

- ▶ How large is the need for additional support and has it been substantiated on the record?
- ▶ What is the best mechanism for providing that support when considering all the environmental and socioeconomic impacts?

It is the contention of Citizens that while the need has not been properly quantified, it is nevertheless clear that the 138 Kv line proposal is far in excess of what is required under the circumstances. Further, it is the contention of Citizens that more reasonable solutions exists that protect against environmental devastation exist. They are distributed generation or construction of 36 Kv lines along Route 608.

IV. **THE BASIS FOR THE NEED FOR THE FACILITY: CEI HAS UTTERLY FAILED TO DEMONSTRATE THAT A SOLUTION AS MAGNITUDAL AS A 138 Kv LINE IS NECESSARY TO SOLVE ANY OF THE POWER NEEDS IN THE MIDDLEFIELD AREA**

A. **CEI'S LOAD FORECAST DATA IS INCONSISTENT AND CONTRADICTIONARY**

Citizens witness Blecker testified that CEI's load forecast for the Rachel area is not reasonable and accurate enough to justify approval of the proposed transmission line. Citizens Ex. 1A at 13. CEI witness Murphy testified that it is absolutely important that historical data be correct in order to have the results be correct. Tr. Vol. I at 25. Yet in the original data provided by CEI, the historical load data was overstated by 4 to 5 MVA for the years 1990 through 1993 and no explanation was offered by CEI for these discrepancies. Citizens Ex. 1A at 13-14. Subsequent to filing its testimony on November 1, 1996, Citizens was informed by CEI that it had inadvertently provided Citizens with the 1994 Geauga County load forecast as opposed to the 1995 load forecast which was then provided. Citizens Ex. 1B at 2. Not only were the forecasted load requirements different from the 1994 to the 1995 forecast but also CEI's reported historical load values were very different between the two forecasts. Id. at 3. (Emphasis added) For example, between 1988 and 1994, the 1994 forecast revealed an average demand of 110.7 MVA per year. However, in the 1995 forecast, the demand for that same period (1988-1994) is equal to 165.1 MVA per year on average or 54.4 MVA greater than reported 1 year earlier for Geauga County!

A review of the forecasted growth in demand also revealed widely divergent results between CEI's analysis in 1994 and CEI's analysis in 1995. The 1994 forecast which covered the period of 1995 through 2004 predicted that Geauga County's demand would increase

from 120.9 MVA to 151.5 MVA, an increase of 30.6 MVA. In contrast, the 1995 forecast projected a demand increase from 180.4 MVA to 225.7 MVA over the same period, an increase of 45.3 MVA. Id. at 5. While one might expect deviations in forecasted load from year to year, deviations of this magnitude without explanation clearly bring into question the entire credibility of the forecast. The huge leaps in forecasted growth appear to suggest an attempt to justify this excessively large transmission project. Moreover, there is absolutely no explanation as to why historical data would be or is different from year to year. It should be noted that CEI made absolutely no attempt to explain, rebut or otherwise challenge the conclusions reached by Mr. Blecker with regard to the difference in data. One is left to speculate and draw one's own conclusions regarding the large differential of as much as an approximate 50% in reported historical data between 2 consecutive years. Not only is the different data confusing, but it also casts additional serious doubt on the validity of CEI's entire load forecast.

As Mr. Blecker points out, CEI utilized regression models to perform its analysis of future load demands. Since a regression model is based on historical data, it stands to reason that the 1995 forecast will project higher loads than the 1994 forecast since the 1995 data is based on higher historical values. This is why it is absolutely critical for the OPSB to identify the exact reason for the differences in CEI's reported historical values and to determine which of those values were actually used by CEI in its analysis. Again, CEI has offered no explanation for these differences and, therefore, the OPSB should not recommend approval of the 138 Kv line based upon data that is totally unreliable. Only one set of historical data can be accurate and true. It is not possible for the 1994 historical data

provided to Citizens during discovery to be accurate and at the same time for the 1995 historical data provided to Citizens for the years 1988 through 1994 to be accurate as well. CEI has made no effort to indicate which is the correct data. Therefore, the forecast must be rejected and, if the forecast is rejected, so must all subsequent decisions that are based on that forecast. As Mr. Blecker stated "history does not change no matter how much we change our assumptions about the future." Citizens Ex. 1B at 6.

B. CEI'S USE OF LINEAR REGRESSION LOAD FORECAST MODELING IS INAPPROPRIATE AND INADEQUATE

To begin, it should be noted that CEI utilized a linear regression model to develop its forecast and Citizens' witness Blecker was the only witness who actually reviewed the CEI regression model. Staff witness Feyzioglu, when asked whether he had made any attempt to analyze the amount of transmission capacity that would actually be necessary, replied that he did not. Tr. Vol IV at 30. He went on to summarize his responsibilities as follows, "my job was simply to look at the peak load growth and, you know, make any assessment of that. I did not even look at the forecast, per se. I looked at the data that was provided and tried to come up with a reasonable and defensible range. . ." Id. at 31. (Emphasis added) The analysis performed by Feyzioglu was a pure time series analysis.

Citizens witness Blecker testified that only end use load forecasts are accepted in Wisconsin because regression models are not deemed accurate enough nor do they provide sufficient resolution with which to make informed decisions. Tr. Vol. VI at 118. He further testified that, of the many forecast reports that he has reviewed in various jurisdictions, perhaps only half still utilize regression analysis, which, in his belief, were certainly

performed better than the one that CEI performed in this proceeding. Id. at 118-119. With regard to the various kinds of forecasting options, CEI witness Murphy testified that CEI typically uses end use surveys for its residential forecasting because it is more effective. While econometric modeling is used for industrial and commercial forecasts. Tr. Vol. I at 26. Mr. Murphy further testified that load growth in Geauga County, however, is driven primarily by the residential sector. Id. at 27. Furthermore, Mr. Blecker testified that he would not expect industrial demand to be a contributing factor to load growth because industrial demand is constant and only grows in discreet increments when an existing plant expands production or a new facility locates in the area. Moreover, it would be expected that new plants would be more efficient thereby reducing incremental energy requirements. When questioned as to why an end use analysis was not utilized for the forecast in this proceeding given that historically the growth in Geauga County has been primarily residential, Mr. Murphy replied that CEI did not have the kind of end use data on residential customers that would be needed to perform an end use analysis for Geauga County. Tr. Vol. I at 27. Yet, CEI claims to know what its customers' energy needs are! Thus, given CEI's own self-imposed limitations, an inferior forecasting methodology was employed.

With regard to the quality of the regression model utilized by CEI, Citizens witness Blecker testified that the "regression model was based on too small a sample size utilizing only 7 points of data as inputs to the model." Citizens Ex. 1A at 15. Mr. Blecker testified that "a small sample size substantially increases the uncertainty of the prediction of the model." Citizens Ex. 1A at 16. Moreover, Staff witness Feyzioglu testified, "you cannot

make rational assessments with 7 points of observation." Tr. Vol. IV at 26. The small number of data points have a number of severe consequences that impact the reliability of the conclusions gleaned from CEI's regression analysis. Namely, such a small sample prevents us from being able to test the model for significant statistical efficiencies. For example, Mr. Blecker testified that stationarity is an assumption that needs to be satisfied in order to produce a valid time series regression model. If we have nonstationary data and it is not corrected for, then the confidence band around the predicted demand forecast will be too small. This means that the certainty of the predicted demand forecast is overstated. Citizens Ex. 1A at 17. Yet, not only did Mr. Murphy not test the CEI forecast model for stationarity, he could not even explain what it was. Tr. Vol. I at 29. As testified to by witness Blecker, another important assumption of a valid regression model is that it does not exhibit autocorrelation. With regard to autocorrelation, Staff witness Feyzioglu testified:

If you are going to use an econometric model, you know, there are certain requirements that those econometric models are theoretically presumed to satisfy, could be well identified, and **existence or nonexistence of autocorrelation is one of them.**

Tr. Vol. IV at 32. (Emphasis added). Mr. Feyzioglu further stated:

When you have just 7 data and you cannot even prescribe one specific trajectory, you know, throughout the forecast horizon, it's a waste of time, I think, to talk about things like autocorrelation or multi-colinearity and stuff like that, just not worth the effort.

Id. at 28. Moreover, Staff witness Feyzioglu testified that "multi-colinearity is a problem that occurs in econometric models."⁴ Tr. Vol. IV at 28. CEI did not and should have checked for this.

It should be noted that CEI witness Murphy did not test for autocorrelation or multi-colinearity and could not even explain what multi-colinearity is. Tr. Vol. I at 28. Furthermore, while CEI witness Murphy could somewhat explain what heteroskedasticity was, he nevertheless indicated that he had not checked for it to verify the accuracy and reliability of the forecast. Tr. Vol. I at 29.⁵

With regard to the variables that were utilized, CEI witness Murphy testified that "growth in population was the most robust prediction of peak growth." Tr. Vol. I at 31. Yet, he admitted that looking at growth over the last 6 years, for 2 years the growth was flat and for 2 years it increased, while in 2 other years, growth actually decreased. Id. at 34. Staff witness Feyzioglu testified that "between 1973 and 1988, population has been growing in Geauga County; however, after 1988 the population has basically stabilized and while it is still growing, the rate of growth is much slower than it had been prior to 1988." Tr. Vol. IV at 23. Mr. Feyzioglu further expanded that the numbers that he utilized for population were those provided by the United States Department of Interior and that these numbers may have been somewhat different than those utilized by CEI. Id. Based upon his analysis,

⁴ Ideally, regression models input variables will be independent of one another. If, however, they show signs of interdependence, then the model is said to exhibit multicollinearity.

⁵ Yet another requirement for a valid regression model is that the variance of the error terms is constant. If they are not, then the model is said to exhibit heteroskedasticity.

Staff witness Feyzioglu concluded that the average growth rate in Geauga County was 1.7 to 2.3%. This is lower than CEI's projected growth in peak demand of 2.3%. CEI Ex. 9 at 5. To put in perspective the growth in population and its impact on need, it is necessary to look at the actual population estimates for Geauga County. According to the US Census Bureau, the estimated population in the Geauga County as of March 7, 1996 is 84,260. Citizens Ex. 5. Compare this to a population in 1996 for Cuyahoga County of 1,398,169 and it is clear that in actual numbers, the growth in population is not so significant as to warrant 138 Kv lines. Id. A 2% increase in the population of 84,260 is equal to 1,685 whereas 2% of 1,398,169 is 27,963. In other words, in addition to looking at the percentage growth, it is equally important to examine the actual impact of the growth on CEI's overall system demand.

As a result of Mr. Blecker's in depth review of CEI's regression model, he concluded that it does not provide a sound basis from which to approve a \$17,000,000 investment by the utility, or to pass those costs onto CEI's ratepayers. CEI's demand estimates are imbedded with problems:

- ▶ The load data put into the model did not match CEI's historical load data;
- ▶ The County employment data used by CEI in the model is three times larger than the CSU data;
- ▶ The forecast is derived from only seven data points;
- ▶ CEI did not test the model for important deficiencies; and,
- ▶ Predicted load growth appears to be influenced by factors that are not accounted for in the CEI model.

Citizens Ex. 1 at 30-32. Given all of the above infirmities, CEI should be directed by the OPSB to go back and redo its Geauga County load forecast to more accurately size the need of the demand. Its work to date to demonstrate the need for 138 Kv transmission line fails utterly. Approval of a 138 Kv line based on need would be against the manifest weight of the evidence.

C. CEI'S APPLICATION FAILS TO DEMONSTRATE THE NEED FOR A DOUBLE CIRCUIT 138 Kv TRANSMISSION LINE

Citizens witness Blecker testified that putting aside the question of confidence in CEI's load forecast, the load growth in Geauga County is not widespread enough to justify the need for the Rachel Transmission Line. Citizens Ex. 1A at 21. Mr. Blecker points to the fact that of the 39 distribution circuits and 5 Rachel area subtransmission feeders, only 4 of the 44 circuits have experienced load increases of 10% or greater for 3 or more years. On the other hand, there are 5 circuits that have experienced a load decrease of 10% or greater for 3 or more years. This, therefore, implies that steady load growth is limited to a group of narrowly defined areas. Id. at 21-22. Therefore, instead of constructing a 138 Kv line that transgresses across a major portion of Geauga County, a more localized solution such as distributed generation and targeted demand side management could be an effective means to provide the support that is needed in more easily defined targeted planning areas.

According to Mr. Blecker, CEI failed to provide a clear definition of the Rachel area electrical needs. A properly designed transmission or distribution expansion plan starts with

two simple questions: How much capacity is needed and what is the timing of the capacity need. Id. at 24-25. As Citizens witness Blecker points out:

There are scattered references throughout the filing -- but nowhere does CEI state how much capacity is needed or by what dates it is needed. Worse yet, the CEI filing is inconsistent in its need determination -- citing different capacity needs in different sections of its filing. The section on DSM for example, says 10 megawatts of load reduction are needed now, and 30 megawatts are needed by 2004. Compare that to the section on distributed generation which considers the addition of 60 megawatts of combustion turbines (CT) in 1997. Yet another view is presented in the CEI load flow analysis which projects a 37 MVA short fall in 1998 and 56 MVA power deficit by 2004 -- under an assumed failure of one Mayfield substation transformer. Also recall that these estimates, especially the load flow results, are based on an unreliable load forecast which casts even more doubt on the validity.

Id. at 25-26.

If one were to put aside the total inaccuracies in the CEI forecast and the inability to pinpoint the need, and accept that 60 MW was indeed the highest amount of capacity needed, the Rachel 138 Kv transmission line remains overkill. Again, it should be pointed out that no one on the Staff made any attempt to quantify the actual need for which the 138 Kv line is proposed to be constructed. Tr. Vol. III at 33-34; Vol. IV at 14; Vol. IV at 30. The absurdity of CEI's solution is highlighted by the fact that to supply 60 MVA of power (the size of the single transformer proposed at the Rachel Substation), CEI is proposing two 138 Kv circuits each capable of supplying 222 MVA or 444 MVA total which is more than 7 times the projected area need 8 years from now. Id. at 26. As Mr. Blecker points out "taken as a whole, the proposed Rachel Transmission Line represents an egregious example

of haphazard planning and system over-design for excessive capacity unjustified by factual need." *Id.* at 26-27. Furthermore, Mr. Blecker testified that from an engineering perspective, it is physically impossible to force 440 MVA through a 60 MVA transformer to satisfy the load. *Tr. Vol. VI* at 115. In a word, CEI's proposed 138 Kv transmission line is overkill and OPSB should reject this proposal.

D. CEI'S ALLEGED RELIABILITY PROBLEM IN GEAUGA COUNTY IS OVERSTATED AND WILL NOT BE SOLVED BY THE ADDITION OF A NEW 138 Kv TRANSMISSION LINE

According to Mr. Blecker's analysis of the "1995 Rachel feeder group outage history by municipality" provided by CEI, when examining the total outage duration only 8.1% of all outages are the result of transmission and subtransmission problems. Thus, of the 1,600 outage hours on the Rachel feeder group in 1995, only 130 hours were attributable to Rachel area circuits. With 44 circuits in the Rachel area, this translates to an average failure rate of 2.96 outage hours per year per feeder caused by subtransmission problems. Citizens Ex. 1A at 5. According to an analysis of CEI's own data, trees (28%), lightning (25%), wind (17%) and weather (7%), account for the majority (77%) of all extended outage hours in the Rachel area. The remaining 15% of outage hours are caused by a number of other factors including, but not limited to, dig ins, defective equipment, human error, and animals. *Id.* at 5-6. From this data, Mr. Blecker calculated the customer-outage-minutes for the Rachel feeder area to determine the effect of an outage on the number of customers. The result is that in 1995, subtransmission problems accounted for only 30% of the customer-outage-minutes as compared to 63% of customer-outage-minutes that were attributable to trees, lightning, weather, and wind. This demonstrates that, in sum,

subtransmission outages affect people 1/3 as much as outages caused by uncontrollable events. Id. at 7.

Mr. Blecker testified that the proposed Rachel transmission line will not address energy delivery problems during peak demand periods. Id. at 8-9. He supports his statements by demonstrating that almost half of the subtransmission outage events occur during non-peak times. This shows that CEI's claim that energy delivery problems in the Rachel area are due to growth and peak demand are untrue -- the outages are not due exclusively to system overload. This is another piece of evidence suggesting that an additional transmission line will not have the positive impact on reliability that CEI claims it will. Id. at 9. Thus, constructing a double circuit 138 Kv transmission line will not solve the reliability problems experienced in the Rachel area.

E. THE INDUSTRIALISTS: THE DRIVERS AND THEIR RUSH TO JUDGMENT

The driving force behind the 138 Kv project is the alleged need by the industrial customers for more reliable power. According to Mr. Brakey, they have been battling CEI for 20 years. Tr. Vol. V at 105. Mr. Brakey also indicated it has only been within the last 5 years that CEI has been somewhat responsive to the concerns of the industrial customers. Id. Yet Sajar Plastics has been experiencing problems over these last 5 years. Pub. Hearing Tr. at 38. Now, according to general claims made by the industrial customers, we are on the verge of an emergency and a decision must be made rapidly. This quick decision which the industrials seek, would destroy the environment and the properties of a number of affected residents in Geauga County; CEI allegedly did nothing to solve the problem for at

least 15 of the 20 years. Moreover, it is difficult to understand that if reliable service is such a problem in this area, why has there nevertheless been a continued growth in industry in Geauga County despite these alleged problems? How could these two conflicting situations coexist for so long?

This is not a time for the OPSB to rush to judgment. It is rather a time for the OPSB to carefully analyze and reflect upon the various options and develop a solution that is in the long run in the best interest of the entire community. A quick fix solution that ransacks the environment and denigrates the quality of life for a number of Geauga residents is not the proper response in this instance. The question becomes, what responsibility have the industrial customers in Geauga County taken for assuring the adequacy of their power needs? As Mr. Blecker testified:

In a case such as Johnson Rubber where they claim to have high financial impacts as a result momentary outages, it is my opinion that it is their responsibility to provide for their own provision of uninterrupted power. Momentary outages . . . are a fact of life in the energy delivery system of all NERC cognizant electric utilities in the US. Whenever a circuit breaker opens or a switch changes its position, there will be a momentary outage. If the cost of those outages -- if the impact of those outages on the manufacturing process are such that they create undue hardship then there are -- there is a well established industry to provide uninterruptible power supplies consisting of some type of energy stored system that are available at reasonable costs in some cases to the end user to who has the requirement for perfect power. In fact, I had a conversation with AC Battery out of East Troy Wisconsin who manufactures a 2 megawatt battery energy storage system. They say they can provide that for \$400 per kw and that its use is consistent with the types of problems experienced by Johnson Rubber.

Tr. Vol. VI at 27-28. For a company with annual gross revenues of \$80,000,000 like Johnson Rubber, one would think that it had the capability of supplying an interruptible power source such as a battery energy storage system if it was indeed needed. Tr. Vol. V at 98.

Continuing along the lines of self-help opportunities available to the industrial customers, GCIG witness Brakey when asked whether his company took advantage of CEI's DSM lighting program could not recall whether it had. Ironically, however, he could readily recollect that they did take advantage of the motor program. Tr. Vol. V at 108. And it was with a great deal of reluctance that Mr. Brakey acknowledged the benefit that load reduction would have on his voltage problems. Id. at 134.

As to Mr. Reid's testimony on behalf of Mercury Plastics (Mercury), he identified three options available to Mercury as possible solutions to its problems of voltage swings and power outages. These three options were new distribution feeder, in-plant generator, or uninterruptible power supply. Tr. Vol. V at 19-20. Yet no independent economic analysis or evaluation was ever made of these alternatives by Mercury. Id. With regard to the extent of the problem, Mr. Reid testified that voltage dips to about 90% of nominal would not be a very significant problem for Mercury. Id. at 23. Mr. Reid further testified that there may be other mechanisms available to convert some of the outages to sags to alleviate some of the outage problems that they are experiencing. Id. at 24.⁶

Mr. Reid also recommended to Mercury that it install a fast voltage regulator which is a device that is used within plants to control the voltage on small pieces of power

⁶ Mr. Reid defines outage and sag as follows "an outage is a complete loss of voltage, and a sag is a short duration under voltage conditions, generally less than 80-90% voltage, generally for less than a few seconds. Id. at 23.

equipment; however, he was not sure whether Mercury had in fact followed his recommendation and installed these devices. Id. at 24.

With regard to steps taken by CEI, Mr. Reid testified that CEI installed voltage regulating transformers near Mercury. Id. at 25. As a result of this installation, the voltage regulation in that area is now within the required plus or minus 5% range. Id. Mr. Reid agreed that depending upon where the voltage regulating transformers are installed, it could help other customers located on CEI's system as well. Id. Mr. Reid clarified the concerns of Mercury when he testified as follows, "the major reliability problem for them is the outages; and although we wanted to have good voltage regulation that did have some minor effect on some processes, the outages are the main thing that is disruptive to their process." Id. at 35. Mr. Reid agreed that the outages in questions were momentary outages. Id. at 39. As discussed by Mr. Blecker above, momentary outages are not uncommon in the electric industry.

While the industrial customers in Geauga County are apparently concerned about the outages on their system which are further exacerbated by increased load, at least 5 have nonetheless entered into special contracts with CEI to obtain rate discounts for business expansion and load growth. See CEI's Application for Approval for Special Contracts with: Neff Perkins Company, Case No. 95-113-EL-AEC, February 2, 1994; Mercury Plastics, Case No. 94-1861-EL-AEC, May 18, 1995; Dillon Products, Finding and Order, October 21, 1994; and Kelch Corporation, August 17, 1994, Case No. 94-1390-EL-AEC. Tr. Vol. I at 97. In the finding and order approving the special contract with Kelch Corporation, for example, the Public Utilities Commission found that "the agreement offers demand charge discounts

over a five year period to encourage the customer to expand its operation in Applicant's service territory." Id. Finding and Order 13 February 2, 1995. Thus, if the voltage and reliability problems are as dramatic and serious as the industrials claim, why are they continuing to expand in the Geauga County-Middlefield area? Further, if the problems are as severe as they claim, why are they not entering into contracts with CEI which provide them with incentives for reducing or altering demand through energy efficiency thereby improving the situation? As CEI witness Shamray-Bertaud acknowledged, reductions in load will help the capacity situation whereas increasing the load will create further injury to the alleged capacity problems in the area. Tr. Vol. I at 94, 96. The claimed need for relief by the industrial customers rings hollow when 1) they have been able to thrive over the last 20 years despite voltage and outage problems; 2) they have taken very limited if any steps to solve their problems by taking advantage of DSM or other solutions like those referred to by Mr. Blecker and Mr. Reid; and, 3) they have actually increased their load to get rate discounts. It is disingenuous to now demand a quick solution at the expense of homeowners who have lived in Geauga County for generations. What they demand is simply not right.

V. OTHER ALTERNATIVES TO THE DOUBLE CIRCUIT 138 Kv TRANSMISSION LINE: CEI'S DESIGNS FOR FAILURE

A. DISTRIBUTED GENERATION (DG) IS AN APPROPRIATE SOLUTION TO MEET GEAUGA COUNTY'S NEEDS

One of the remarkable facts that has emerged from this proceeding is the tremendous level of effort undertaken by CEI to undermine the distributed generation alternative. Since CEI has been unyielding and inflexible in its desire for a 138 Kv transmission line to solve the project area's needs, it appears that the reasonableness and possible acceptance by the

OPSB of the distributed generation alternative has them worried. In short, CEI doth protest too much! If CEI had taken half as much effort to design and seriously analyze a viable distributed generation alternative, the plant could have already been built! Instead, CEI has chosen to create a field of land mines, interjecting with witness after witness, new and improved (yet still deficient) arguments to attempt to derail the serious consideration of distributed generation. The presentation of CEI's case with respect to distributed generation has been appalling in its failure to constructively work towards solutions that are achievable and more likely to gain widespread customer acceptance. Instead of constructing a plan for distributed generation, it has engaged in an elaborate game of smoke and mirrors. CEI raises no less than 10 reasons why distributed will not work. Each of these reasons is filled with holes, deceptions, half truths and when the smoke clears and the evidence is reviewed, it will be demonstrated that distributed generation does work, despite CEI's efforts to demonstrate otherwise. The subject matter of CEI's smoke and mirrors include: capacity, reliability, timing, permitting, air emissions and permitting, costs, noise, gas availability, system integration design, (ie. what CEI misleadingly refers to as the island affect) and siting. Each of these arguments will be addressed below.

1. Distributed Resources (DR) Is A Viable Alternative To Constructing A 138 Kv Line

Citizens' witness Blecker testified that the concept of distributed resource planning has gained national attention as an alternative to conventional transmission and distribution planning. The concept relies on the use of distributed generation (DG) and targeted demand-side management to meet local area energy needs at least cost and to defer or

avoid the need for new transmission and distribution facilities. Citizens Ex. 1A at 31. As

Mr. Blecker explains:

The motivation of DR is based on the fact that T & D (transmission and distribution) capital costs are high and that T & D systems utilization factors are very low -- typically operating at less than 50% of their capacity most of the year. This is because they are designed and sized for several hours per year of peak demand in a given service area. As a result, T & D systems are utilized very inefficiently.

Id. Mr. Blecker further points out that in this particular case, CEI wants to spend \$17,000,000 to provide a source of power that may only be needed on a peak summer day and then only if there is an outage at the time of the area peak. Distributed resources could potentially meet those needs in a more cost-effective manner. Id. at 31-32.⁷

As Ann Chaka on behalf of Sustainable Energy for Economic Development (SEED) testified.

The benefits of distributed resources are not limited to deferring construction and increasing asset utilization. Thoughtful application of distributed resources can provide voltage support and potentially improve the reliability of the distribution system and provides unique opportunities for customer with a need for especially high-quality power service and gives them the reliability that they desire.

The length of circuit exposure is greatly reduced with distributed generation, which minimizes impedance losses and line exposure due to storm damage, and the consequent loss in productivity and equipment failures for industrial customers.

⁷ See pages 31 through 34 of Mr. Blecker Testimony, Citizens Ex. 1A, as to the success of distributed resources in other jurisdictions.

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Distributed generation can be added modularly when and if it's needed, thus minimizing the risk that a projected increase in demand may not occur. In contrast, large capital investments cannot be undone if the projected demand does not materialize.

Pub. Testimony Vol. at 89-92

2. Distributed Generation Solves the Three Major Concerns of Voltage, Capacity and Reliability

Ms. Shamray-Bertaud testified that the 3 problems with the electric distribution system in Geauga County is that there is not enough distribution capacity to serve existing load, the voltage is outside acceptable ranges, and the reliability is not acceptable. Tr. Vol. I at 83. Each of these three factors will be addressed in seriatim.

a. Voltage

Ms. Shamray-Bertaud testified that distributed generation alternatives would solve the voltage regulation problems. Tr. Vol. I at 63, 84. Thus, one of the major three prongs that must be satisfied for distributed generation to be considered as a viable option has been addressed and is uncontroverted.

b. Capacity

Ms. Shamray-Bertaud also testified that distributed generation can improve the capacity situation. Tr. Vol. I at 84. Staff witness Carl Evans concurred that in theory distributed generation can correct all three of these problems, (voltage, capacity and reliability). Tr. Vol. III at 31-32. The question that needs to be determined, however, is the size of capacity that is required. Given the very faulty and problematic load forecast

analysis that was performed for the Geauga County area, it is impossible to ascertain with any degree of certainty the appropriate size for a distributed generation alternative. CEI in its application looked at two possible alternatives. One of these alternatives was a 60 megawatt combustion turbine at the Rachel substation. However, no full analysis was done of this alternative. Tr. Vol. I at 69. Another alternative that was reviewed was a combination of 2 20 megawatt CTs with one backing up the other at an anticipated capacity factor of 60% and 2 5-6 megawatt CTs operating a total of only 180 hours per year each (a capacity factor of 2%). Tr. Vol. I at 165-166. The 2 20 megawatt CTs would be located at Middlefield while the two peaking facilities would be located at Orwell. Tr. Vol. I at 57. It should be noted that neither the North American Electric Reliability Council (NERC) or the ECAR planning criteria were used to conduct load flow studies involving the CT options. Tr. Vol. I at 60. Therefore, its arguments against the CT are speculative and not based on fact. Staff witness Carl Evans, while claiming that he did no independent assessment of the magnitude of capacity required, nevertheless recommended a 60 megawatt CT option backed up with an additional 60 CT megawatts. Tr. Vol. III at 33-34.

Mr. Blecker's testimony, which provides the most indepth analysis of the combustion turbine option, recommends a 40 megawatt CT constructed in 1998 for a cost of approximately \$300 per KW. As Mr. Blecker explains:

This would solve the system's immediate and near term contingency deficiencies of 37 MVA by 1998 according to CEI's load flow. This plan has a net present value (NPV) of approximately \$9.6 million in capital costs and an additional \$4.5 million in annual operation and maintenance costs; assuming 100 operating hours per year, 3% inflation, and a 12% discount rate. Therefore, this plan has a total net present value

of \$14.1 million or \$2.9 million less than the Rachel transmission line.

Citizens Ex. 1A at 51.

Citizens recommends that the OPSB order CEI to do a careful evaluation of the appropriate level of capacity required to meet the needs in the Geauga County area and from the results, present a realistic distributed generation alternative.

One of the primary benefits of distributed generation is its modular nature. It is possible to install the smallest combustion turbine that can reasonably be expected to meet the areas need over the next 5 years and then re-evaluate the need in 3 years. If additional capacity is needed, another combustion turbine can be secured in sufficient time. Waiting 3 years reduces the risk of an unreliable load forecast, and if needed, will result in a lower net present value of revenue requirements. If the CT is not needed, then CEI has wisely minimized today's investment. Moreover, with respect to the size of the CT, it should be predicated upon the inclusion of such demand side management techniques as direct load control or interruptible rates which would further minimize the size of any required combustion turbine.

c. Reliability of Distributed Generation

During this proceeding, CEI went to great lengths to create the illusion that distributed generation is not as reliable as an alternative as a 138 Kv transmission line. CEI weaved an intriguing web in which it basically put forth the proposition that one CT could not operate the entire time it is needed and that, therefore, a second CT to back up the first CT would be required. Of course, when you add an entirely redundant second generating

unit, the cost increases dramatically. Likewise, when you add a second combustion turbine the potential emission levels also increases. Thus, by so alleging, CEI cleverly attempts to take distributed generation out of the realm of consideration. But one must look at the underpinnings of the CEI argument to recognize that a fully redundant combustion turbine is absolutely absurd. The second tactic which CEI takes is to argue that a CT, unlike any other generating facility in its entire system, could not be connected to the remaining system and, therefore, would be unreliable unless backed up by an additional combustion turbine. This island concept is another subterfuge designed to derail the combustion turbine. All that is illustrated from CEI's design is its willful intent for failure.

Let's look at the facts. Ms. Shamray-Bertaud testified that 2 20 megawatt CTs are needed in Middlefield, one to back up the other. Tr. Vol. I at 57. Ms. Shamray-Bertaud went so far as to state that even with complete redundancy, there would still be thousands of outage hours a year. Id. at 71. This boldface assertion neither accounts for the fact that many of the outages are maintenance outages which can scheduled at off peak times nor does it account for the fact that the CTs are not needed during offpeak times. However, when questioned later, Ms. Shamray-Bertaud admitted that it would not be prudent to schedule maintenance for both units at the same time and further, that maintenance outages should not be scheduled during peak periods. Id. at 76. Nevertheless, even conceding these prudent practices, CEI abandons all pretense of reasonableness in its position when it testifies as follows:

Q. [By Ms. Migden] Are you basically testifying that if you have a 20 megawatt distributed generation facility and that facility goes down during normal operating periods when you

are not at peak but when you are at normal load, that means that the lights are going to go out; is that what you are testifying?

A. [By Ms. Shamray-Bertaud] Yes.

Tr. Vol. III at 87-88. Given that the average Geauga load factor is 60% of the 167 MVA peak load or 100.2 MVA, there should not be any problem meeting such a need without the lights going off. Tr. Vol. I at 73. Moreover, Ms. Shamray-Bertaud acknowledged that it is possible to have a transformer back-up distributed generation. Tr. Vol. I at 80. CEI's approach is akin to a cry that the sky is falling. It is alleging that even under normal circumstances, if the combustion turbine were to go down, there would be no power. This tribunal should be reminded that right now there is no combustion turbine and even in the event of a single contingency, the lights do not go out in Geauga County. The addition of a combustion turbine can only add to system reliability especially during normal load periods as was put forth in the above question.

Perhaps recognizing the enormous credibility gap in justifying a 1400 outage hour assumption, CEI brought in Vice President Szwed to present a more reasonable yet still alarming number. Mr. Szwed testified that a combustion turbine would result in 200 outage hours per year. CEI Ex. 22 at 21. Mr. Szwed explained that the basis for this new estimate was consideration of the joint outage probability having 2 combustion turbines. "We estimate that having two of those might reduce a number of one which may be in the magnitude of excess of over 1000 hours per year; having two reduces that exposure to something in the magnitude of 200 hours per year. And that is working off the availability assumption of the individual combustion turbine." Tr. Vol. X at 207. Absolutely lacking

is any rational or scientific study or analysis. Nor was any particular data relied upon to support the magical 200 hours. Still, these 200 hours (the 2.28% outage rate) results in 8,560 hours in which the unit is available. Id. at 207-208.

As a final note, it should be pointed out that CEI's standards for distribution reliability are not hard and fast, but in fact are more like a moving target tailored to individual customers. When asked whether there are any sort of engineering manuals or industry guides that are relied upon in establishing reliability criteria for distribution, Mr. Szwed testified it could vary from industrial customer to industrial customer for the size and voltage level that a customer has served off of. In cross examination he indicated that "I do not have all of the standards and numbers here with me." Tr. Vol. X at 228. This clearly indicates that there are a number of different reliability criteria that are utilized with different industrial customers and that in fact reliability is negotiable.

Ms. Shamray-Bertaud testified that 83½% of the time a combustion turbine would be available; however, a 16.5% of unavailability, equating to 1400 outage hours per year, could be expected. Tr. Vol. I at 64. Citizens witness Mr. Blecker refuted this, pointing to the 1993 EPRI TAG which shows a simple cycle gas turbine availability of 87.5%. The 87.5% availability includes all factors such as planned maintenance and unplanned forced outages. In fact, the forced outage component for a CT is approximately 6.1%. Citizens Ex. 1D at 3. Mr. Blecker went on to explain that the planned maintenance outages are scheduled when most convenient, normally during non peak periods such as spring and fall when the CT's energy and capacity output is not needed to support system load. Only unplanned outages, which can occur at any time, affect reliability. Id. at 3. Mr. Blecker testified that

historical information comprised, collected and analyzed by the NERC demonstrates that from 1991 through 1995, CTs operated with a forced outage rate of just 3.04% which is 50% more reliable than that predicted by EPRI in its Technical Assessment Guide. Id. at 4. Mr. Blecker summarized the issue as follows:

The real questions is how many hours per year would be at risk, if a combustion turbine was used to serve all or part of the Rachel area capacity needs. To answer this question, we must first determine how many hours per year Geauga County load exceeds the capacity of existing equipment. CEI states that Geauga County load was greater than 90% of Geauga County peak demand for 36 hours per year in 1995.

* * *

It can be shown that the projected load exceeds the capacity of the Mayfield substation plus the CT capacity by approximately 10%. (Recall however, that the 163 MVA Mayfield substation rating is for one transformer out of service. If all transformers are working normally, the substation rating is 189 MVA and therefore, all load will be served without capacity constraints).

Id. at 4-5. Mr. Blecker explained that by using this information along with CT forced outage rate data, a calculation can be made to determine how many hours per year are actually at risk. **The actual hours at risk range from 2.2 hours (based on EPRI forced outage rates) to 1.1 hours per year based on NERC reliability data.** According to Mr. Blecker, it is these other probabilistic generation reliability assessments that should be used for planning purposes, not the 1400 hours as claimed by Ms. Shamray-Bertaud. As just explained, it is reasonable to expect 1 to 2 outage hours per year for planning purposes. However, since there are 3 transformers at Mayfield, each of the 3 transformers, each operating at an emergency rating for 1 hour, or 2 transformers operating at an emergency rating of 1/2 hour

to 1 hour, could adequately provide capacity to Geauga County in the event of a CT forced outage. Id. at 6. Recall Ms. Shamray-Bertaud's testimony that a transformer could back up the CT. Tr. Vol. I at 80.

To further understand Mr. Blecker's conclusions, it is important to provide additional background for the Board. According to Ms. Shamray-Bertaud, there are 3 transformers at the Mayfield substation each of which has a rating of approximately 60 MVA, for a total of 180 MVA. The 1994 peak station load was 167 MVA. Tr. Vol. I at 49. Ms. Shamray-Bertaud testified that in the event of an outage or single contingency, for 1 hour, the load on a single transformer could be increased to as high as 82 MVA. Id. at 50. Under a single contingency, at Mayfield in which 1 of 3 transformers fails, Ms. Shamray-Bertaud testified that the 2 remaining transformers operating at their emergency rating of 80 MVA each would produce 160 MVA. Id. at 51. However, in the event that the contingency is the loss of the distributed generating unit, 2 transformers could be operated at 60 MVA for a total of 120 MVA plus the third transformer being operated at 80 MVA its emergency rating for a total of 200 MVA, clearly enough to back up the CT, and more importantly, enough to serve Geauga County load. Id. at 50-51. Furthermore, Ms. Shamray-Bertaud conceded in cross examination that if necessary, a transformer could be run for more than 1 hour at an amount greater than 60 but less than 80 MVA. Id. at 74. Thus, at a peak demand in excess of 200 MVA, the transformers could be relied upon to back up the load even further. Ms. Shamray-Bertaud acknowledged that the Mayfield transformers had in fact been overloaded in the past in excess of the normal rating and in excess of the emergency rating and under

both scenarios, the system functioned properly without experiencing the catastrophic failures suggested in her direct testimony. Id. at 99.

Not insignificantly, Ms. Shamray-Bertaud also testified that the Mayfield substation has been overloaded for as much as 6 hours at a time and on 1 occasion operated in excess of its emergency rating for over 6 hours. Id. at 100. On redirect she further clarified that these overloads ". . . could occur almost daily during the summer, during weekdays, and since I have been assigned to the project from 1994, every summer since has seen that overload, but I could not quantify the number of times, but it could be 4 to 6 months a year is susceptible to exceed that rate." Id. at 125. Ms. Shamray-Bertaud also clarified that the overload was in excess of an emergency rating of 163 MVA. Id. Thus, there should be no problem with the transformers being able to back up the CT during the 1 to 2 hours of a possible outage at peak periods.

One final point that needs to be emphasized is that the Citizens' combustion turbine plan will provide a sufficient level of reliability, and capacity and voltage support under single contingency conditions. If for example, one of the three Mayfield transformers failed, the CT's output could be increased to compensate for the load that was being served by the failed transformer without having to operate the remaining transformers above their normal rating. On the other hand, in the unlikely event that the CT experienced an outage, the power output from any combination of the 3 Mayfield transformers could be increased to adequately serve the area load. Recall that CEI has stated that it uses only single contingency planning for its system. This is where the loss of any single component or device is considered. Therefore, the loss of the CT or the loss of the transformer is the only

valid contingency scenario to consider and, under either condition, the CT option will provide for the needs of CEI's customers.

3. Other Ruses and Obstacles Raised by CEI

a. Designing The Distributed Generator: No Distributed Generator Is An Island

CEI erroneously asserts that a combustion turbine would not be reliable because it could not be backed up by the CEI system. This is because the Middlefield alternative (redundant 20 MW facilities) in the application was analyzed to operate as an island disconnected from the electric system. Tr. Vol. I at 131. Mr. Krauss also testified that based upon the Company's configuration, the distributed generator would attach directly to the Company's distribution circuits or to the transmission grid and that customers who were served off of that distributed generation type of system would only be served off of that distribution system. Tr. Vol. VII at 157. The fact that CEI would design a distributed generation unit with no back up from the CEI system clearly demonstrates CEI's lack of intention to present a serious, credible distributed generation alternative. In essence, CEI went through the motions of filling out forms without ever seriously evaluating this very viable option.

According to Mr. Szwed, CEI's distribution system is designed on a radial basis. Tr. Vol. X at 107. While it normally functions as a radial system, CEI also has a contingency radial configuration which allows it to close switches which, when left open, prevent power from flowing through to other areas. Id. Staff Ex. 17. Mr. Szwed also testified that "we operate distribution in a radial manner and to the extent that there are faults, there are times when there are automatic throw-overs so we can pick up loads from another station

because we planned it that way." Id. at 76. Thus, with proper planning for a CT in the event of a CT outage, the Company could utilize automatic throw-overs to switch from one source of power to another. Tr. Vol. 10 at 77. Citizens witness Blecker reviewed CEI's CT option and noted ". . . it is clear that CEI has not attempted to design a CT solution that solves the Geauga County problem of low voltage and insufficient capacity. Instead, the CT option that CEI evaluated is poorly conceived and appears to be designed specifically not to solve the areas problems." Citizens Ex. 1E at 3. As Mr. Blecker explained, under the CEI combustion turbine plan, the combustion turbine would be connected to one or possibly two circuits in the Rachel area and these two circuits would have no other source of power other than the combustion turbine. Therefore, it would be necessary for the combustion turbine to run 100% of the time to service the loads on those 2 circuits. "This is the key argument made by CEI as to why the CT option is inadequate and why multiple CTs of the same size are needed as backup. Any time the CT is unavailable, customers would be without power." Citizens Ex. 1E at 4. The solution is simple. If the configuration drawn by CEI does not work, don't use that configuration; use another one. Mr. Blecker has proposed 2 alternative configuration for consideration which add two additional circuits, thereby increasing operating flexibility and reliability. Id. at 6. Mr. Blecker explained how Citizens combustion turbine option would work.⁸

⁸ Exhibit DAB-1 provides the following line drawings: Figure 1-existing CEI system; Figure 2 - CEI 138 kv Rachel plan; Figure 3 - CEI CT plan; Figure 4 - CBW (Citizens) CT Plan; Figure 5 - CBW (Citizens) alternative plan. This exhibit is attached at the end of the brief for reference in order to follow the explanation of Mr. Blecker. (See Ex. 1)

During low load periods, switch A and switch B as shown in figure 4 would be closed and the customers served by our R-13 and R-15 would get power from the Mayfield substation through R-22 and R-21 as they normally do in the present system configuration. However, when load increased to the point where capacity or low voltage limitations were a concern, the CT would be started and switch A and switch B would open, disconnecting circuits R-13 and R-15 from R-22 and R-21. Then, the CT would supply power to customers on R-13 and R-15 until such a time when load levels decrease enough to allow the CT to shut down . . .

Id. at 7. As Mr. Blecker explained, if the combustion turbine experienced a forced outage, switch A or switch B or both could be closed to provide power from the Mayfield substation to customers served by circuits R-13 and R-15. Id. at 8. By utilizing Mr. Blecker's proposal, customers could be assured of having power at all times. Even if the CT was down during several hours per year of peak demand in the area, the Mayfield transformers could be operated at an emergency rating to continue to serve load. Id. at 10.

Moreover, Mr. Szwed conceded in cross examination that it is possible to switch the power flows back and forth on a bidirectional basis. Tr. Vol. X at 81-82. Mr. Szwed further acknowledged that the means are in place so that if power is lost at a substation, there are switches that could be thrown or closed to reroute the load and pick it up off of another station. Id. at 100. Finally, Mr. Szwed admitted that with respect to Staff Ex. 17, that it is technically possible to open a switch or close a switch if the Company needed to do so. Id. at 119-120. All of these statements acknowledge the fact that it is possible to have bidirectional flows and to open the switches to a contingent radial configuration, i.e., to network the distribution system when necessary.

It needs to be stressed that the proposal by Citizens is not new science from a technical standpoint. Mr. Blecker testified that combustion turbines are a very reliable source of energy and have a proven track record and availability within the utility industry.

Id. at 10.

If CTs were as unreliable as claimed by CEI, then those units would not be used as extensively as they are by utilities to meet peak demand requirements. Consider that at times of peak demand a utility system is at its most vulnerable operating point, while major system components are operating at or near maximum limits. If combustion turbines could not be reliability depended upon, customers could experience brown outs, black outs, voltage surges and voltage sags if there were insufficient capacity to meet their needs.

The electric industry will continue to increase reliance on combustion turbines. There are 394 planned generating unit additions between 1995 and 2004. Of those 348 units (88%) will be CTs contributing 34,788 megawatts of new capacity. (DOE/EIA Inventory of Power Plants in the United States 1994, Table 4. 1995.)

Seventy percent (8,634 megawatts) of 12,312 megawatts of all new utility capacity installed from 1991 to 1995 were combustion turbines. (DOE/EIA Electric Power Annual 1995 Vol. I Table 2, 1996).

Citizens Ex. E at 10-11.

With respect to the ability of CEI or any other utility to accept power from a combustion turbine, on cross examination discussing how CEI would handle power sold by a qualifying facility to CEI, Mr. Szwed indicated that the Company would be able to accept the power from the qualifying facility. Tr. Vol. X at 172-173. Thus, it is possible for public utilities to have bidirectional power flow and to both sell power to a cogeneration facility

when the owners of the facility need power and to also purchase any excess power generated from that cogeneration facility. It should be noted that most likely a small cogeneration unit would be connected to the CEI system at the distribution level and not at the transmission level. Nevertheless, it is possible to make accommodations and, indeed, under the Public Utility Regulatory Policies Act of 1978, CEI would be required to make accommodations to accept power from a qualifying facility.

For the above stated reasons, CEI's arguments that distributed generation cannot work because it is an isolated island is clearly incorrect.

b. Cost of Distributed Generation

A number of different cost estimates were provided by the various parties with respect to distributed generation. For example, CEI provides 2 different sets of numbers. In its application, CEI claims that a 52 megawatt unit would cost greater than \$50,000,000 which translates into approximately \$893 per KW. However, in CEI's response to Citizens Second Set of Interrogatories and Request for Production of Documents, Question No. 39, a 60 megawatt gas turbine has an installed cost \$850 per KW. Citizens' Exhibit 1A at 45-46. For the second estimate of \$850 per KW, CEI relied on EPRI's technical assessment guide dated November 7, 1993. Tr. Vol. I at 163. Mr. Kovach acknowledged that the price of the CTs have come down since the time of the publication in 1993 and was likely to be in the \$800 to \$850 kw range for a 20 megawatt CT. Id. at 164. Staff witness Evans conceded as well that the Technical Assessment Guide prices were 3 years old and that the prices have since dropped. Tr. Vol. III at 18. Citizens' witness Blecker developed a table for the cost of combustion turbines based on market prices. In this table, a 6 megawatt, 20 megawatt,

and 60 megawatt would cost \$600 per KW, \$300 per KW, and \$250 per kw for total costs of \$3,600,000, \$6,000,000, and \$15,000,000 respectively. Id. at 46. Mr. Blecker testified that CEI's 60 megawatt combustion turbine would cost only \$18 million or just \$1,000,000 more than the Rachel line, (assuming no adjustment to the "preferred" route).

Simple combustion turbines are, in fact, currently available in the \$300 per kw to \$500 per kw range. For example, ABB Corporation, one of the largest manufactures of combustion turbines, can provide a 50 megawatt CT for \$400 per KW. Similarly, General Electric can install a 40 megawatt CT for \$420 per kw for the heavy duty 6B model and \$450 per kw for the LM 6000 aeroderivative gas turbine. It should be noted that these prices are for turn key installations and include installation foundations and all necessary balance of current equipment (protective switch gear transformers, etc. required to begin generating grid connected power. Citizens Ex. 1C at 3-4. Moreover, another third party vendor stated that a 40 megawatt simple gas turbine would cost approximately \$10,000,000 for a GE unit including construction costs or approximately \$250 per KW. Id. at 4. Furthermore, the Wisconsin Public Service Commission uses a \$332 per kw estimate for a 40 megawatt CT for planning purposes. Id.

Mr. Blecker's recommendation was for CEI to install a 40 megawatt combustion turbine in 1998 for \$300 per kilowatt. This would solve the systems immediate and near-term contingency deficiencies of 37 MVA by 1998 according to CEI's load flow study. This option has a total net present value of \$14.1 million. Citizens Ex. 1A at 51.

Staff witness Carl Evans testified that a reasonable cost assumption to use for a combustion turbine would be \$600 per KW. Staff Ex. 2 at 6. However, Mr. Evans made

no attempt to verify the market price for combustion turbines at this time. Tr. Vol. III at 22-23. If one were to use Mr. Evans' \$600 per kw figure based upon 1 of 2 20 megawatt units running continuously with a 60% load factor and will fuel costs equaling \$2 per mmbtu, the total plan costs would be \$31,093,016. Staff Ex. 2, (Ex. CRE-2B). If Mr. Blecker's capital cost of \$300 per kw is substituted for the \$600 and all other factors remain the same, the total plan cost is \$20,378,730. Staff Ex. 2 Ex. CRE-2A. Obviously, utilizing Mr. Blecker's \$300 per kw makes the distributed generation alternative competitive with the 138 Kv transmission line. If one utilizes Mr. Evans' \$600 per kw figure (with which Citizens does not agree), the combustion turbine is still a viable alternative in that it represents a reliable source of power with minimal environmental impacts.

By way of comparison, it should be noted in the Dayton Power & Light Company's (DP&L) 1994 long term forecast report on PUCO form FE2-4 entitled "Specification of Planned Electric Generation Facilities," a cost for a 75 megawatt combustion turbine was listed at \$433 per KW. The 1995 long term forecast report reports an even smaller number of \$355/KW reflecting once again that the cost of combustion turbines has continued to decline. DP&L's 1995 Long Term Forecast Report, PUCO Form FE2-4 at 64. As to the reason for declining costs, Staff witness Evans agreed that the specter of competition may have an impact on driving down the cost of combustion turbines. Tr. Vol. III at 23.

Attorney Examiner Farkas questioned CEI witness Szwed with respect to the combustion turbine production costs. Mr. Szwed testified that he thought that production costs would be higher than CEI's current production costs although he did not know for sure. Tr. Vol. X at 91. There are two points that need to be made here. First, the dollar

per kilowatt hour production cost of a combustion turbine is a function of the fuel cost, heat rate and variable operation and maintenance (VOM) costs. It is nothing more. For example, if fuel is \$2 per MMBTU the heat rate is 10,000 BTU per KWH and the variable O&M is \$0.10 per KWH, then production cost would be 2.1 cents per KWH. Using CEI's numbers, \$4 per MMBTU for fuel, unspecified heat rate, and \$0.4 KWH for VOM, then the production costs at an assumed 10,000 BTU per KWH heat rate is equal to 4.4 cents per KWH. The correct answer is that it is not possible to determine the actual costs until a specific CT is specified, but a 2 to 5 cents per KWH range is reasonable. Secondly, we do not need to know an exact answer at this point in time because CEI's average production costs are among the highest in the ECAR region (2.13 cents per KWH). However, average production costs are not really the concern; rather, the marginal or peak production costs are more important to a utility since its CTs output is required during peak demand periods. CEI has one of the highest ECAR peak production costs at 16 cents per KWH. It is therefore possible that the CT could save CEI money if it is used during times of system peak in addition to Geauga County's local area peak periods.

While there are many different numbers presented with respect to the cost of distributed generation, the fact clearly emerges and that is that CEI has not done its homework nor properly analyzed the combustion turbine option. The data upon which CEI relies is outdated and no longer reliable. Mr. Blecker's data however, is much more credible in that it is based on prevailing market prices and is closer to the price utilized for a combustion turbine constructed in this state recently, i.e. the DP&L Tait Units. Staff witness Evans presents a middle ground approach by utilizing a \$600 per kw number. While

this number is too high, it nevertheless demonstrates that a combustion turbine is a reasonable alternative and one which has the capability of garnering sufficient community support. See Citizens Ex. 15 and 15A, the petitions signed by local residents supporting a combustion turbine alternative.

c. Siting

The question of where a combustion turbine would be sited was raised on numerous occasions throughout the proceeding. The position of Citizens is that it is incumbent upon the CEI to find the best area for siting. Citizens would point out that Middlefield is among the few areas which does not have zoning requirements. Moreover, given that Middlefield is where the industrial customers are located, this would be a sound alternative. While Mr. Krauss testified, that no siting for land had been conducted, he did indicate that, "now, realistically, there is probably some place in the Middlefield area and some place in the Orwell area that we could work through the process of working with the community and all of the environmental agencies and permit a combustion turbine that could be constructed there. But without going through the actual site selection study and the full process, I couldn't predict for certain that that site exists and where it would be." Tr. Vol. VII at 161-162. The bottom line is that siting it is an issue that has not been fully explored. As Mr. Krauss stated, should a combustion turbine be seriously considered, the likelihood is that it will be possible to find an appropriate site for it. Therefore, the siting of the combustion turbine should not be considered a major problem in this proceeding. Moreover, as a final note, Mr. Krauss attached to his supplemental testimony preliminary layouts for a

combustion turbine at the Rachel Substation site. It should be noted that it is indeed possible to locate a combustion turbine at that site, if necessary, and that, while tight, there is nevertheless sufficient space to do so. CEI Ex. 18 at 4. Thus, siting once again should not be a problem.

d. Environmental Permitting

CEI once again attempts its magic game of smoke and mirrors by creating unsupportable concerns that the siting of a combustion turbine would require a significant undertaking both in terms of time and effort to prepare and secure the appropriate environmental permits. CEI's arguments in this regard demonstrate clearly their lack of understanding of environmental regulations. CEI also ignores that Geauga County is an attainment area. First, CEI witness Krauss testified that permitting for a combustion turbine with NOx emission levels of up to 25 tons would take 6 months; however, the next level of 25 to 40 levels of NOx emission would take a little bit longer and if the NOx emissions exceeded 40 tons, it would take approximately 4 to 5 years to obtain a permit. CEI Ex. 18 at 3; Tr. Vol. VII at 164. With respect to the combustion turbines that might be considered in this proceeding, CEI originally offered the following information:

The Electric Power Research Technical Assessment Guide provides data on utility resource planning. The guide includes summaries of power generation technologies including combustion turbines. It provides an estimate for the duration to license, design, and construct several typical combustion turbines of 25 megawatts or greater capacity. The guide estimates a one year duration for the preconstruction, license, and design tasks, and a one year period for idealized plant construction for a combined 2 year duration to put a combustion turbine into operation.

In Ohio, the preconstruction licensing and design task of constructing a combustion turbine of less than 50 megawatts such as a 40 megawatt installation consisting of two 20 megawatt at one site could take slightly less time.

CEI Ex. 6 at 1. Citizens has no quarrel with the above testimony. Rather, it is the revision of the facts as contained in Mr. Krauss' supplemental testimony that causes concern. Mr. Krauss' supplemental testimony attempts to equivocate on the conclusions researched and provided to OPSB. For example, Mr. Krauss refers to the EPRI TAG standards and the 22 month permitting duration as "a best case scenario." He goes onto hypothesize that "the actual duration to install a CT could easily extend to 46 months or longer." It is interesting that while CEI relies on the EPRI Technical Assessment Guide as the gospel when it comes to the outdated cost for combustion turbines, it totally dismisses EPRI's conclusions when it is a questions of timing for permitting. In essence, by stating that it could take 46 months or longer, Mr. Krauss is testifying that the emission levels would be over 40 tons of NOx per year. Absent from Mr. Krauss' alarmist conclusions is any explanation as to why it should be assumed that a 40 megawatt combustion turbine would have emissions that exceed 40 tons of NOx per year. Indeed, Mr. Krauss is totally without authority or expertise to testify on the question of emission limits. For example, Mr. Krauss' involvement with gas fired combustion turbines has been limited. Tr. Vol VII at 134. Nor has Mr. Krauss ever prepared a Title V Clean Air Permit. Mr. Krauss was not familiar with Prevention of Significant Deterioration (PSD) and how that might or might not fit in with Title V Permits. Id. at 165. (It would only be required if total emissions exceeded 100 tons

per year). Mr. Krauss made reference to best available technology but did not know if this was a standard imposed by statute. Id. at 166-167.

When asked what kind of combustion turbine Mr. Krauss used to reach his conclusions regarding the timeframe for permitting, he answered that he did not know. Tr. Vol. VII at 43. Yet, on the previous day, in a discussion regarding emissions from combustion turbines, Mr. Krauss was asked whether he would agree that there are more efficient CT units than others as a general proposition. Mr. Krauss responded, "Yes. There is actually a tremendous difference in combustion turbines." Tr. Vol. VII at 165. Obviously, the kind of combustion turbine utilized has a great deal to do with what the emissions will be.

Nor was Mr. Krauss any more knowledgeable with respect to the sulfur dioxide emissions, lead emissions, volatile organic compounds, carbon monoxide emission, or particulate matter emissions that would come from a gas fired combustion turbine. In fact, he did not know whether any of these emissions would be present in a gas fired combustion turbine. Tr. Vol. VIII at 43-44. Mr. Krauss testified that he would expect NOx emissions to exceed 40 tons per year; however, he provides no calculation, no analysis, and no basis for his speculation. Tr. Vol. VIII at 45.

When questioned regarding the Woodsdale 80 megawatt gas fired CTs which EPA internet data reports to have emissions of approximately 27 to 30 tons per year, Mr. Krauss said that he could not accept that information subject to check because "just talking about the megawatt size doesn't provide information. Are they simple cycle, are they -- do they contain steam injected gas turbines -- or, steam, a STIG as far as injecting steam into the

unit to lower NOx emissions, are they catalytic -- selective catalytic reductions, what other enhancements do those particular units have?" Tr. Vol. VIII at 46. This response is from the same witness who just moments earlier indicated that the kind of combustion turbine utilized was not important for his evaluation. Id. at 43.

When questioned further as to the formula utilized for calculating NOx emissions, Mr. Krauss could not answer the questions. Tr. Vol. VIII at 67-68. Moreover, when asking Mr. Krauss about the capacity factor assumed for the unit he answered "the capacity factor would not be a part of the equation for emissions rates." Id. at 67. This conclusion is clearly erroneous. It is simple logic that a unit operating 10 hours it is going to have far fewer emissions than if it operates 1000 hours, however, Mr. Krauss did not recognize the importance of this in doing his calculations for the NOx emission levels. How then, did he perform the calculation on which he basis his conclusion that a 40 MW CT could require a Title V permit? In denying Citizens' Motions to Strike Mr. Krauss' supplemental testimony with respect to the air permitting issues on the basis that Mr. Krauss was not a qualified expert, the Attorney Examiner ruled:

I am going to deny those, and just note that all of this testimony will be given the weight that it deserves and that -- and also based voir dir questions that note his qualification or -- in response to your qualification so that's my ruling.

Tr. Vol. VII at 141. Citizens would request that the OPSB give absolutely no weight to Mr. Krauss' testimony. Not only is he not qualified to testify on this subject matter, his

statements are contradictory and he offers absolutely no proof to back up his claims that emissions from a 40 megawatt combustion turbine would exceed 40 tons per year.

To put Mr. Krauss' testimony into perspective, it is hard to imagine that of the 8,634 megawatts of combustion turbine capacity that were installed between 1991 through 1995, each of the owners went through a Title V permit taking 4 to 5 years. Moreover, it is equally hard to imagine that the 348 combustion turbine units representing 34,788 megawatts of new capacity would be built between 1995 and 2004 if a Title V permit were to be required. See Citizens' Ex. 1E at 11. Citizens' witness Blecker testified as to his observation regarding combustion turbines noting that from an environmental perspective, natural gas burning CTs have very clean air emission profiles and as an infrequently used peaking unit, should not pose any significant problems with the air quality in the local air shed or on a regional basis. Citizens Ex. 1A at 45-46. Unfortunately, the Staff did not file any testimony on this issue to shed further light on this subject for the Board's review.

e. Availability of Gas

Staff witness Evans testified that he would expect CEI to choose to evaluate reasonable alternatives. Tr. Vol. III at 22. In that vein, one would not expect CEI to choose a gas fired combustion turbine if there was no gas available. Yet, through extensive cross examination on gas availability, CEI attempted to give the impression that perhaps gas is not available. Nevertheless, Carl Evans testified that 8 inch gas lines to Middlefield were available. Id. at 13. CEI witness Shamray-Bertaud testified that she believed that gas is available at Middlefield. Tr. Vol. I at 59. Furthermore, in response to a question regarding why natural gas was chosen for the generators, CEI witness Kovach responded "natural gas

is cleaner. We knew -- we knew it would be available in the area. I mean, it was a matter of what the cost would be." Tr. Vol. I at 160. He then testified that, "there's also a cost difference. What we're estimating now for oil, I think, is on the range of \$6 per mmbtu while gas is the \$3 range." Id. at 160-161. Given this, any attempt to discredit the availability of gas by CEI should be ignored. If gas truly was not available, why did they choose a gas fired combustion turbine as their alternative? Furthermore, given that a site for a CT has not been identified, proximity of gas lines can be addressed at that time.

f. Noise

Mr. Krauss introduced the concept of noise as yet another road block to the construction of a distributed generation alternative. Mr. Krauss testified that any large piece of equipment generates a fair amount of noise. Tr. Vol. VII at 174. He fails to point out there are numerous noise mitigation technologies that can be employed to substantially reduce the overall noise level of the CT. Mr. Krauss goes on to acknowledge that there are things that can be done to reduce the noise level; however, he offers the caveat, "if we had an open field where there are just butterflies and crickets out there on an every day basis, and you install a combustion turbine, a lot of people consider that as a jet engine out in the field, obviously people who live near that are going to be quite concerned." Id. Of course, Mr. Krauss omits that instead of siting a combustion turbine in the middle of a field with butterflies, a more obvious site might be next to industrial facilities where the actual need is away from residential properties.

B. CONSTRUCTION OF 36 Kv LINES: A 36 Kv LINE CONSTRUCTED ALONG ROUTE 608 ABOVE THE EXISTING DISTRIBUTION LINE IS A VIABLE OPTION

Citizens witness Blecker testified that the proposed Rachel Line would provide 440 MVA of power to a single 60 MVA transformer at the Rachel Substation. Citizens Ex. 1a at 58. This is an example of excess capacity even if CEI's Geauga County load forecast was reasonable. Id. Another option more reasonably sized to the projected demand would be the possibility to tap into the Mayfield/Ashtabula 138 Kv transmission line near the state route (SR 608) crossing, and install a 138-36 Kv transformer and run dual 36 Kv lines along SR 608 to the Rachel Substation. Id.⁹ Mr. Blecker explained the benefits of this option:

First, there is already a 4.8 Kv distribution line in place on wood support structures along the highway. It is technically feasible to remove the existing structures if necessary, and replace them with new wood or steel poles on the existing right of way. The structures would need to be designed according to clearance and span requirements for 36 Kv line, but the structures could be under built with the existing 4.8 line. Second, the distance from the Mayfield/Ashtabula 138 Kv tie-in point to the Rachel Substation is only 8 miles as measured along the highway, or approximately 1 mile less than CEI's preferred route. Next this line would be less expensive than CEI's proposed plan. Finally, dual 36 Kv lines would be capable of providing sufficient capacity to the 60 MVA Rachel transformer. Assuming that an 8 mile 36 Kv line could carry approximately 50 MVA then this option would provide 100 MVA of power to the 60 MVA substation -- more than enough to reliably serve local load.

⁹ Note that this is the same line CEI would use to supply power to the Rachel substation.

Citizens Ex. 1A at 58-59. Mr. Blecker also pointed out other advantages of using the existing highway corridor as compared to CEI's preferred and alternate routes. These advantages include:

Site access for construction workers would be much easier given that the majority of this routing option would run primarily along SR 608 there would be presumable less environmental impact than the CEI preferred or alternative route.

Id. at 59-60. Mr. Blecker provided a rough estimate of the cost of this option to include \$1,000,000 for the Rachel substation, \$500,000 for the Mayfield/Ashtabula 138-36 Kv tap, and perhaps \$500,000 per mile for installed 36 Kv line and pole work for a total cost of \$5,500,000. This is 1/3 the cost of the proposed Rachel line. As Mr. Blecker summarized "here is an option that is appropriately sized, minimizes environmental impact and makes efficient use of the existing CEI right of way -- CEI has failed to demonstrate any commitment to exploring this option, or to developing a least cost solution appropriately sized to the need." Id. at 60.

Mr. Blecker testified that the 36 Kv option is adequate and technically feasible to solve voltage capacity and reliability problems. Tr. Vol. VI at 16. In order to refute Mr. Blecker's arguments, CEI brought in Vice President Szwed as a rebuttal witness. To begin, it is interesting to note that Mr. Szwed acknowledged that the 138 Kv line is not the only means of solving the problems in the Geauga County area. Tr. Vol. X at 21. Mr. Szwed prepared a confidential analysis of the 36 Kv option and presented load flow studies of the Route 608 option. CEI Ex. 22 SFS Ex. 1. Although Mr. Szwed's 36 Kv load flow studies

were CEI's attempt to design the load flow based on the 36 Kv recommendation set forth in Mr. Blecker's testimony, he never made any attempt to contact Mr. Blecker for clarification as to Mr. Blecker's intent with regard to 36 Kv option. Tr. Vol. X at 139. Moreover, Mr. Szwed testified that only 3 to 4 iterations on the Route 608 study were performed and while Mr. Szwed has performed probably more than 100 load flow studies, he could not testify as to what the proper number of expected load flow studies would be a project such as the Rachel 138 Kv transmission line. Id. at 140-143. Moreover, Mr. Szwed could not testify as to the size of the Mayfield transformer. Id. at 200. One would have expected someone who had spent time performing a reasonable load flow analysis would at least know the size of the Mayfield transformers. Nor did Mr. Szwed know the rated capacity of the circuits or how much power actually goes beyond the Geauga County area. Id. at 230.

With respect to his load flow analysis, Mr. Szwed testified that he had set the 138 Kv to 36 Kv transformer load tap changer to its highest output setting in order to maximize the voltage of the power that will travel the 8 miles down to the load center. Id. at 215-216. However, when further questioned with respect to Citizens Ex. 16 which is a document from Westinghouse illustrating the various tap settings, the fallacy of Mr. Szwed's statements was revealed. The Westinghouse document set forth the auto tap changes that are available on 2 of CEI's transformers at the Mayfield substation. Tr. Vol. X at 239. Mr. Szwed testified that in his load flow study, he had set the load tap changer to a level of 37.69 KvA and that it was the highest allowable setting. Id. at 215-216. Yet, under cross examination, it was revealed that the load tap changer has 16 settings including a nominal setting, and that the

type of transformer used by CEI has a maximum setting of 41.25 KvA. Id. at 238-242. This is 10% higher than the nominal rating of 37.5 that Mr. Szwed employed. Thus, Mr. Szwed could have designed his 36 Kv load flow study to increase the voltage output that would travel along the 8 miles to the load center. This would have provided a much higher level of support for the industrial area. Instead, he choose the lowest setting of the 16 settings. The 37.69 setting he utilized corresponds to the dial setting of "1" which is 37.5 Kv. (Please note that there is a scale of 1 to 16 with 16 being the highest). Id. Mr. Szwed claimed that it is impossible to set the tap changer any higher because of over voltage concerns at customer sites near the transformer. Id. at 249-250. What Mr. Szwed overlooks, however, is that there would be no customer supplied directly at the 36 Kv line anywhere near the transformer. In fact, when questioned as to how far the closest customer is, Mr. Szwed simply did not know. Id. at 251-252. However, as proposed by Citizens, the 2 36 Kv circuits would come out of the transformer as express circuits running 8 miles directly along Route 608 to connect into the existing 36 Kv system in the Ruth/Rachel substation area. The nearest customer who could possible be concerned about voltage would be at least 8 miles away from the transformer. This means that the transformer output voltage can be set as high as possible, as long as 2 conditions are met: 1) the output voltage is within the limits established for the safe operation of the transformer and 2) the voltage at the first customer site near the interconnection point 8 miles away from transformer is within tariff limits.

Mr. Szwed also expressed some concerns with regard to trees getting in the way of the 36 Kv line. However, he acknowledged that CEI does have a tree trimming program in place so that over growth should not be a problem if maintenance is done properly and

regularly. Id. at 165-166. Moreover, given the fact that there are existing distribution lines along SR 608, one would expect that there are not many trees in place at this time that can cause a concern for the lines.

In refuting the 36 Kv line option, Mr. Szwed testified that 19.1 hours is a system average for distribution line outages compared to a .8 hours for transmission lines; however, it should be noted that contained within his average for the transmission line outage are lines that have experienced absolutely no outages whatsoever. This means that the average time for the outage of a transmission line would probably exceed .8 hours in each instance. Id. at 162, 164. What Mr. Szwed ignores, however, is that new distribution circuits are better designed and are therefore going to be more reliable and experience significantly less outage time than the 19.1 hours because the 19.1 hours is a composite of both old and new circuits.

It is clear that the 36 Kv option is a reliable, cost-effective option which the OPSB should require CEI to explore before granting approval of a double circuit 138 Kv line.

C. DEMAND SIDE MANAGEMENT (DSM): A CONCEPT WHOSE TIME HAS NEVER COME TO GEAUGA COUNTY

To begin, it is important to point out that DSM by itself cannot provide the entire solution to Geauga County's energy needs, however, DSM, in conjunction with distributed generation or another reasonable alternative, can play a significant role in achieving a cost-effective solution. Citizens' witness Blecker testified that CEI has not reasonably evaluated the role of targeted demand side management to alter the load requirements of its customers in the Rachel area. Citizens Exhibit 1A at 53. For example, CEI's DSM analysis

based on an arbitrary requirement for DSM to defer the proposed Rachel line for 10 years claiming that 10 megawatts of load reduction is needed now and an additional 20 megawatts is required by 2004 for a total reduction of 30 megawatts. Id. Mr. Blecker testified that, assuming that the DSM demand reduction targets are achieved, it would be more appropriate to reevaluate the need for the Rachel line in 2004 rather than assume that the line will still be required. Such a strategy would address planning concerns in the Rachel area and would maximize CEI's flexibility to respond to the changing patterns and trends in the electric industry. Id. CEI's analysis of the demand side management option is, at best, weak and contradictory. For example, CEI claims that it needs 4 hours of peak load reduction for any DSM deferral of the Rachel line. However, this does not appear to be based on any reasoned analysis and in fact contradicts CEI's claim to need a 60% capacity factor rating from its combustion turbine (CT) distributed generation option. As Mr. Blecker summarized:

It is incomprehensible how CEI would need 60% of the output from one 20 megawatt CT, yet need a DSM load reduction of 10 megawatts at an equivalent capacity factor of only 17% (4 hours need per 24 hours per day). Also a 4 hour times 365 day need is illogical considering that the Rachel area is able to serve load under normal circumstances and only needs reinforcement if an outage occurs during peak demand periods.

Id. at 54. While CEI fails to quantify the demand reductions necessary to defer the Rachel 138 Kv transmission line in any serious manner, assuming that CEI's demand reduction targets are nevertheless correct, Citizens witness Blecker testified that these demand reduction targets, if correct, would be achievable. Id. at 55. Mr. Blecker testified that if we

assume that CEI has a 1998 load reduction potential of 3% and apply it to the Rachel area forecasted load of 131 megawatts, a potential DSM savings of almost 4 megawatts results. Mr. Blecker pointed out that in a targeted area such as Geauga County, a closer relationship with the customers can be developed to facilitate DSM program design and acceptance. Id. at 56; Tr. Vol VI at 43, 44, 124.

In terms of DSM programs that are best for deferring the 138 Kv option, Mr. Blecker pointed out that since the alleged problem under study is an outage during peak conditions, CEI should investigate the use of interruptible rate tariffs and direct load control programs for a segment of its customers in Geauga County. The benefit of these types of end use control measures is that it allows CEI's customers to continue to function as normal without CEI incurring any additional expenses under normal operating conditions. If, however, an outage occurred that threatened the system, CEI could shed the required amount of load very quickly. Id. at 56.

CEI witness Kovach agreed that one of the ways to control peak load growth is by direct load control mechanisms such as what are now utilized for air conditioners and heat pumps. Tr. Vol. I at 156-157. Mr. Scheck testified that DSM could be used to address reliability concerns in the sense that it would reduce the load on the lines that are there. Tr. Vol. IV at 12. Mr. Scheck also agrees that DSM with load control programs could be used to help reduce capacity needs. Tr. Vol. IV at 14. Yet, the ability of CEI to respond in a reasonable manner and develop a demand side management program is handicapped by their own lack of information and communication with their customers. Tr. Vol. VI at 38. For example, CEI has no 5 year historical and 10 year forecasted load duration curves

aggregated by customer class for Geauga County. Tr. Vol. I at 30. Nor does CEI maintain information on the average annual energy and demand requirements for Geauga County. Id. at 105. As discussed supra, CEI did not use an end use analysis for its load forecast because it did not have the necessary data for Geauga County. CEI witness Murphy testified that in doing an end use survey, had they done one, they would have looked at "a basket of products -- products or services that a typical residential home would have for that particular area. This list is refrigerators, washer, dryers, televisions, computers now, CD players. We would generally look at about a list of fifteen appliances." Id. at 27. Had CEI developed this kind of information on its customer base, it would be in a better position to implement demand side management. Not insignificantly, it should be noted that Mr. Murphy also testified that the growth in Geauga County is primarily residential. Id. at 27. Given this, it makes eminent sense for the Company to obtain further information on the demand side management potential of its residential customers in the project area.

The sparsity of any serious DSM analysis was demonstrated when CEI witness Kovach testified that "and what we did, you know, pulled out some of our most popular programs . . . and looked at whether some of these programs could apply to the area." Id. at 142. And that amounted to only three programs out of the myriad of programs available throughout the United States! Tr. Vol. IV at 9. While significant savings in energy and demand can be achieved on the industrial level, CEI did no analysis of its commercial and industrial programs for purposes of this proceeding. Id. at 155-156. Mr. Scheck testified that DSM could be used to address reliability concerns in the sense that it would reduce the

load on the lines that are there. Tr. Vol. IV at 12. Mr. Scheck also agreed that DSM with load control programs could be used to help reduce capacity needs. Tr. Vol. IV at 14.

Equally egregious is the fact that the Company does not have information on how many customers are participating in DSM programs or the effect of those programs in Geauga County. Id. at 158-159. This clearly demonstrates a lack of any genuine effort on the part of the Company to utilize demand side management to defer transmission capacity and points to CEI's lack of knowledge of its customers' energy use patterns and load drivers. With regard to the level of expertise and research that CEI has dedicated to the subject of demand side management, Mr. Kovach was not familiar with the terms technical potential of demand side management or economic potential of demand side management which are concepts regularly used in analyzing DSM programs. Id. at 157-158.

As to the DSM analysis conducted by CEI, Staff witness Scheck testified that what the Company did, was not a comprehensive look at every DSM technology, but rather was limited to 3 programs. Tr. Vol. IV at 9. Mr. Scheck further pointed out that there was no economic analysis done in this proceeding to see if DSM was a cost-effective option. Nor was there any information as to what the avoided cost would be. Id. at 11.

Mr. Scheck also noted that while the Company contacted approximately half of the industrial customers to determine their level of interest in DSM, CEI reported that little interest was shown. He noted that it was not clear to what extent CEI evaluated and aggressively pursued these limited DSM options with customers to defer the need for the project. Staff Ex. 2 at 3-4.

Mr. Scheck further testifies that "the Company asserts in its application that it did not encourage the use of DSM to defer this project." Id. at 5. This blatant and short-sighted omission of a cost-effective alternative to help defer the addition of transmission capacity is unexcusable and by itself is a reason to reject the alternative proposed by CEI. It should be noted that, given that there was no cost-benefit analysis performed, it is impossible to ascertain the full breadth of DSM programs that are available to defer transmission capacity. Parenthetically, the cost-benefit analysis performed historically on DSM programs in the 1994 long term forecast proceeding did not include transmission and distribution capacity deferrals. Tr. Vol. I at 155. Had a cost-benefit analysis been performed of DSM programs with the purpose of deferring the 138 Kv transmission line, and had CEI decided to embark on a well reasoned targeted area demand side management program, we would not be here today talking about constructing a 138 Kv transmission line. Had CEI properly embarked on a sound DSM program years ago, it could have deferred this issue. Given that it did not do so, DSM can still be utilized as a cost-effective means to defer additional transmission and distribution capacity additions in the future. An example of an effective DSM program was set forth by a witness at the public hearing:

While I was living on Cape Cod, we passed the Cape Cod Commission Act, which was a comprehensive planning vehicle that incorporates 16 townships and approximately 100,000 people, very similar to Geauga County. Its goals are to preserve and enhance the natural and scenic resources, while also promoting economic growth. Massachusetts Electric Company is a big player there, and they have an aggressive conservation - energy conservation program. Id. at 124-125.

Any many people tonight have mentioned Pacific Gas and Electric, which is the company out there, which has also implemented serious conservation management programs.

These programs, by the way, that have been designed and implemented by these electric utilities has significantly impacted energy use and need in those areas. They are examples of comprehensive planning approaches that demonstrate that we do not have to sacrifice economic health in order to preserve our natural heritage. Id. at 126.

It is evident that the technology exists for industrial growth and to meet our industrial growth and our industry's power needs without trashing our landscape or compromising the health of our children.

And we are looking at the Public Utilities Commission to be informed about these technologies, to know about them and to look at the alternatives, which are no longer really, in a sense, alternatives, because they have been tried and implemented successfully in other places. Id. at 126-127.

Citizens recommends targeted demand side management be included as an integral part of the solution to Geauga County's demand and energy needs.

VI. THE OPSB SHOULD REJECT ALL OF THE ROUTES PROPOSED IN THIS PROCEEDING

During the course of this proceeding the Applicant, CEI, originally recommended a preferred and an alternative route. Toward the very end of the evidentiary hearing, an alternative route was developed which has been referred to as "adjustments to the preferred route." In addition, there was a study and consideration of Route 608, each of these routes shall be discussed below. Staff witness Ron Yerian testified that there would be social impacts on all of the routes that were under consideration. Tr. Vol. IX at 52. It is the recommendation of Citizens that the OPSB not approve the preferred route, the alternative

route, or the adjustment to the preferred route. Nor should the OPSB approve a Route 608 if it involves the construction of 138 Kv lines. Rather, Citizens would recommend that the OPSB modify the application to require CEI to construct 36 Kv lines down along the road of Route 608 above the existing distribution lines.

A. BOTH THE PREFERRED AND THE ALTERNATIVE ROUTE SHOULD BE REJECTED

These two routes shall be discussed together in that Staff report contained an adverse recommendation as to each of these. First, it should be noted that Staff witness Yerian testified with respect to the criteria that "it is a positive or negative on each of the eight criteria. And the Staff saying no to one of those eight is sufficient for the recommendation to the Board to not certificate the facility." Tr. Vol IX at 18. (Emphasis added) In fact, the Staff recommended as follows:

The staff recommends that the Board find that neither route as currently configured represents the minimum adverse environmental impact considering the state of technology and the nature and economics of the various alternatives and other pertinent considerations.

Staff Ex. 1 at 33. (Emphasis added) Some highlights of the Staff's findings are presented below:

Construction of the facility along the proposed, preferred, or alternative routes will require the clearing of approximately 27 acres of woody vegetation consisting primarily of deciduous forest cover.

Id. at 17.

The alignment of the preferred route contains 17 acres of woodlands, 15 acres of successional old fields, 14 acres of wetlands, 13 acres of residential/agricultural land, and 9 acres successional woodlands. The alternative alignment contains 33 acres of residential/agricultural land, 16 acres of woodlands, 12 acres of successional woodlands, 9 acres of old fields.

Id.

Numerous surface waters would be intersected by each proposed alignments. Potentially affected stream resources include the headwaters of the east and west branches of the Cuyahoga River, Big Creek, Jenks Creek, Cutts Creek, Alyworth Creek, and Bates Creek, which are located within the Cuyahoga River and Grand River basins.

Id. at 18.

Staff has found inaccuracies regarding the applicant's description of stream resources and the project area.

Id. at 18.

Biological indicators of cold water or exceptional warm water habitats in communities are present in the streams that will be crossed by both proposed alignments. It is important to note that both cold water and exceptional warm water habitats are not common in Ohio and are considered to be particularly sensitive to human-induced impacts.

Id.

Approximately 30 permanent culverts will be installed in surface waters for vehicular access during construction and operation of the facility along the preferred route.

Id. at 19.

Permanent modifications to stream banks and channels constitute a physical and biological disruption of aquatic resources regardless of whether these are culvert extensions, replacements, or new installations.

Id. at 20.

Of special concern are the proposed transmission line crossings of Cutts Creek because of the presence of unique aquatic assemblies.

Id.

The crossing of the upper reaches of the first Cutts Creek tributary south of SR 6 which will intercept 2 stream channels, occurs on very steep, forested slopes of 25-50%. According to Geauga County soil survey, the hazard of erosion is very high for these soils if vegetation is removed and most slopes are unstable and subject to slippage. The clearing of vegetation on these slopes in the flood plain will likely result in chronic sedimentation into the stream.

Id.

Erosion is a hazard on slopes of 2-12% while erosion is a serious hazard on slopes between 25 and 50% when soil cover is removed. Increased run off and erosion can therefore be expected to occur during and after construction. Because of highly erodible soils and steep slopes, it will be very difficult to devise erosion control measures which prevent run off into the streams.

Id. at 20-21.

Potential impacts to these streams include the removal of riparian vegetation, herbicide drift, placement of structures on or near stream banks, and increased sedimentation.

Id.

Potential erosion problems during construction as well as operation of the facility along either alignment could contribute to increases in stream water temperature, chronic sedimentation, and long term, cumulative habitat degradation of streams in the region.

Id.

Sixty wetlands will be intersected by the preferred alignment.

Id.

The number of wetlands intersected by this (the alternative) alignment is 41.

Id.

The majority of the wetland . . . are forested wetlands. The removal of trees in these wetlands within the r-o-w (right of way) will permanently alter these wetlands and their function as forested wetlands. In addition, these alterations, if conducted in forested, riparian wetlands may adversely affect adjacent stream by reducing shading, leaf litter, and stream banks stability.

Id. at 22.

Herbicides will be used.

Id.

The Applicant has indicated . . . transmission line structures, concrete foundations, access roads and permanent culverts associated with access roads will be placed in emergent, shrub, and forested wetlands along the preferred and alternative routes.

Id.

Project related activities during construction and operation of the facility will result in permanent alteration of forested wetlands as well as a loss of wetlands due to placement of fill material.

Id. at 23.

In addition, approximately 14 out of 21 structures placed in wetlands along the preferred route will be placed in forested wetlands.

Id.

R-O-W clearing activities during construction and maintenance of the facility will result in a long term replacement of relatively mature deciduous forest cover with open meadow conditions. The permanent loss of the cover is of special concern at forested stream crossing points, especially in forested wetlands and riparian zones. The Applicant has not demonstrated that proposed maintenance practices . . . will minimize impacts associated with clearing of forest cover especially to streams, forested wetland and riparian areas.

Id.

The cutting of trees in Indiana bat habitat of moderate suitability may result in habitat modification which would harm or otherwise constitute a taking of endangered species under the Endangered Species Act.

Id. at 24.

Approximately 24 acres of potential Indiana bat habitat of moderate suitability for bat use will be cleared.

Id.

The project area is located within the range of numerous rare, threatened, and endangered animal species.

Id. at 25.

Staff has determined that the applicant's investigations and subsequent conclusions regarding the occurrences of rare, threatened, and endangered species, in the study corridors were inadequate.

Id.

The Applicant has incorrectly evaluated the likelihood of the State designated endangered eastern massasauga in the study corridors.

Id.

Staff has determined that the applicant's evaluation of potential impacts to rare, threatened, and endangered species in an area of such ecological richness as this project area is inadequate. For example, the applicant has indicated . . . that impacts cannot be predicted for the State - designated potentially

threatened water pennywort even though it was observed within the preferred R-O-W.

Id.

In summary, the proposed, preferred, and alternate routes will cause potentially significant and adverse impacts to terrestrial, and aquatic resources in the region. Construction and operation of the facility along either alignment as currently configured will result in long term cumulative impacts due to a) the permanent loss woodlands, b) the fragmentation of large wooded tracts, c) the clearing of wetlands, and d) the filling wetlands. Sensitive streams and wetlands in the project area including cold water habitat will be degraded by the elimination of riparian corridors and woody vegetation cover, increased run off and sedimentation, and physical alteration by permanent access roads and culverts. In addition, potential impacts may occur to the water pennywort. Habitat that may support other rare, threatened, and endangered species will also be affected along both alignments.

As presently configured, both routes present significant social impacts. The preferred route requires the acquisition of one residence. Also, the preferred route passes in close proximity to many residences. The alternative route follows a straight line path that bisects a majority of the properties in traverses. In addition construction of the proposed alternative route would require the acquisition of family residences that could be avoided.

Id. at 28. In fact along the preferred route there are over 400 residences that would be affected due to the presence of various 2 trailer parks. Tr. Vol. VII at 52.

Given the significance and severity of the impacts outlined by the Staff, it makes absolutely no sense whatsoever to construct a 138 Kv transmission line along either the preferred or alternative route. This is especially true when more viable alternatives, such as a combustion turbine or at 36 Kv line along route 608 already exists. The environmental

impact of these alternatives are far less significant than what would occur with this unnecessary 138 Kv transmission line.

Given the above evidence of environmental degradation, Citizens respectfully requests that the OPSB follow the Staff recommendation and not certificate either the preferred or alternative route.

B. ADJUSTMENTS TO THE PREFERRED ROUTE

The adjustments to the preferred route were presented in testimony filed by Ted Krauss filed on December 23, 1996. It should be noted that the testimony adjustments were not filed as part of the original application and, therefore, were probably not subjected to as rigorous a review as was conducted by the Staff with respect to the original preferred, and alternative routes. Moreover, the Staff's statements that the adjusted preferred route represents minimum adverse impacts did not include any review of the combustion turbine or the 36 Kv line. Rather, it was limited to the routes that had been set forth for the construction of a 138 Kv line. Tr. Vol. IX at 57.

Interestingly, no one wants to claim responsibility for the modifications for the adjustment to the preferred route. For example, when questioned as to whose idea it was to propose the adjustments to the preferred route, Mr. Krauss answered that "I think the best way to describe that, it would be from the Staff." Tr. Vol. VIII at 12-13. Staff witness Yerian however had a different opinion. He stated "the staff really hasn't proposed a route . . . it is not the Staff's purpose in this case to recommend a route or to suggest a route. We have to recommend that the board certificate or not certificate a route." Tr. Vol. IX at 53. Putting aside the fact that neither the Staff nor the Company want to claim the adjustments

to the preferred route as their own, an evaluation of this adjusted preferred route reveals that it too does not warrant being certificated by the OPSB.

While the Staff appears to indicate that the adjustments to the proposed route are acceptable, numerous serious problems abound. First and foremost, is the reliance that the construction crew hired and supervised by CEI will do everything appropriately and proper in order to ensure minimal adverse environmental impacts. These assurances ring hollow coming from the folks who brought us the Perry Nuclear Power Plant. Moreover, given the number of problems and inaccuracies and poor workmanship throughout this application, Citizens does not possess a warm and comfortable feeling regarding CEI's efforts to protect the local environmental. In short, community acceptance for this project is not widespread. The impact resulting from the adjustments to the preferred route are significant. Three specific areas will be discussed below since those were the areas focused upon in the adjustments. Impacts to riparian corridors, impacts to wetlands, and the B&O Railroad corridor. However, to the extent that other problems were noted in the Staff report on unadjusted areas, the OPSB should take this into consideration as well.

Ms. Gordon testified that it would be necessary to revegetate and that "as far as preserving the existing vegetation, when you are using heavy equipment, that's going to be very hard to do. If you are able to do it at all, I'm sure that would be preferable." Tr. Vol. VIII at 113. Moreover, she testified earlier that "my experience has been, even though revegetation may be required, I've seen areas in severe slopes where even though required, they are unable to do so after construction. Id. at 111. When asked whether once removal

of vegetation occurs other vegetation is going to emerge and flourish in its place, Ms. Gordon responded:

Again, with my experience, once the vegetation is removed and the heavy equipment is allowed to trample what is left, it is highly dependent upon whether or not there is any topsoil left which the plants can grow in after the construction activities are completed and also the nature of the soils, whether or not there are highly erodible slopes involved, or whether or not there are flat areas that could recover.

Id. at 108-109.

When asked the following:

Q. [By Ms. Migden:] Does the proposed adjustment to the preferred route remove all concerns regarding the potential for permanent loss of water quality and or resource functions, to streams and wetlands, due to vegetation loss, slope disturbance, siltation, etc?

A. [By Ms. Gordon:] . . . if everything that we said and – said in Mr. Krauss supplemental testimony was carried out and if the contractors actually carried them out many of my concerns would be alleviated. However, there is always the concern that the construction crews carry them out in the proper way. So there is still a concern.

Id. at 121 (emphasis added). Moreover, Mr. Yerian agreed that if you have a stream and heavy trucks coming in at both sides of the stream although never crossing it, there is still the possibility of erosion and sedimentation and vegetation destruction. Tr. Vol. IX at 63. Mr. Yerian agreed that increased sedimentation can cause various problems in the stream's ecosystem that would affect the aquatic life in those streams. Id. at 50. He also acknowledged that it is difficult to prevent any sedimentation if that is the goal. Id. at 59.

When questioned with regard to whether in an area where there are steep slopes and/or highly erodible soils there will be problems in terms of establishing new growth after clearing for construction, Ms. Gordon responded affirmatively. She went on to elaborate that in ". . . an area of steep slopes with highly erodible soils, it's difficult for new plants to get the roots into it without some of the soil sloughing off." Tr. Vol VIII at 128. Further Ms. Gordon agreed that if the soil from the slope is eroding into the streams, and if the preventative measures discussed by CEI are not carried out correctly, there would be a problem with the slope holding more seeds for regrowth. Id. at 129-130. Ms. Gordon also acknowledged that the natural revegetation of wooded areas following power lines construction will not result in the same kind of vegetation because "if you cut down a wooded area and the trees are large, you may eventually get a reestablishment of trees, but they are going to be saplings and it will take a long time to get the same type of habitat that you had before, if that were your scenario." Id. at 131. Furthermore, Ms. Gordon testified that:

We have a general concern just in general that it's really an ecologically rich area; but most of Geauga County is. And there is always those concerns associated with construction practices in general, and clearing practices in general, things like, you know also landowners' preferences. I mean there are always these concerns if you want to protect the environment, that you just don't know. There is a certain amount of variability in that depending upon how the actual work is carried out.

Id. at 132.

With regard to the riparian buffer, Ms. Gordon testified that leaving a 50 foot riparian buffer will help to avoid major impacts. However, when asked whether it will absolutely unequivocally avoid those major impacts, she indicated that the concern was that there is enough distance for the buffer to do its work, to filter out sediments and nutrients. She stated:

Normally the recommendation on that, you know, buffer areas between 50 and 100 feet is what we often recommend when we are trying to preserve riparian areas.

Id. at 134. Nevertheless, in this case, the Staff is accepting a very minimal riparian buffer of only 50 feet, at the lowest end of their acceptable range.

Again on the subject of the impact of construction on the environment, now with respect to streams Ms. Gordon was asked:

Q. [By Ms. Migden]: When you state in the following paragraph, last sentence, that if the . . . if the slopes are disturbed by overzealous clearing by large equipment, serious adverse affect to the streams could still occur. What kind of serious adverse impacts are you referring to there?

A. [By Ms. Gordon]: Again, I'm talking about slope disturbances in areas where on the unnamed trib to Cutts Creek there are highly erodible soils, because if this occurs, you will be looking at a potential decrease in water quality in the area. You're looking at potentially significant impacts if that does occur, that's why its important to ensure that it is very clear to the contractors what they are allowed to do and what they are not allowed to do.

Id. at 136-137 (emphasis added). Finally, Ms. Gordon acknowledged:

Whenever you do construction, you don't avoid all the impacts.
The area is impacted just by things going through it.

Id. at 142. Thus, unless the construction crew does everything exactly as required by the Staff who will not be there on a daily basis, there will be serious environmental impacts. That is putting a lot of faith in a construction crew that is starting out already behind schedule.

With regard to the wetlands, Staff witness Merchant testified that wetlands are sprinkled throughout the alignment. Id. at 147. Ms. Merchant testified that the tree clearing activities could potentially change the function of the wetland by converting from one wetland type to another. Id. at 148-149. It should be noted that Mr. Yerian could not identify whether the adjustments to the preferred route had any impact in reducing the number of trees that would be removed. Tr. Vol. IX at 46-48. With regard to required wetland mitigation, the following cross examination took place:

Q. [By Ms. Migden]: In your testimony you discuss that -- on page 3, that the applicant proposes to mitigate wetland impacts at a ratio of one to one, but that requirements in a 401 certification would require mitigation in the ratio of one to -- 1.5 acres for every acre.

A. [By Ms. Merchant]: Yes.

Q. To your knowledge, has CEI made any statements that it plans to revise that to 1 acre -- for every 1.5 acre.

A. No.

Id. at 154-155. This brings into question the ability of CEI to even obtain a 401 certification. Furthermore, there is the unanswered question as to whether CEI has the ability to do the required mitigation, if so required.

Ms. Merchant also testified that there is a current proposal on the Nationwide Permit to limit the filling of headwaters or isolated wetlands to 3 from the current 10 acres currently authorized. When questioned whether it was possible given the fact that CEI had not done the wetland delineation as required, that the total number of acres that might be impacted on either the preferred or alternative route would exceed the 3 acres, Ms. Merchant replied that it was indeed possible. Id. at 160-161.¹⁰

Other required delineations were not performed as well. With regard to the requirement that the Staff continue to work with the applicant to assure that potential massasauga habitat has been delineated within project boundaries, Mr. Yerian testified that the applicant has not submitted to the Staff any massasauga habitat delineation. Id. at 75.

One of the major changes along the adjustment to the preferred route was to move some of the proposed poles a grand total of up to 4 feet closer to the center line of the railroad grade. Tr. Vol. III 53-55. When questioned as to whether or not moving the poles would result in a change of altitude, Mr. Krauss stated that they were not being moved to a higher altitude. Id. at 55. However, the Staff's recommendation is premised upon the belief that the poles are indeed being moved to a higher altitude. In fact, Ms. Gordon testified that it was her understanding the poles would be placed on the top of the grade

¹⁰ It appears that the 3 acre limitation has been adopted. See Final Notice of Issuance, Reissuance, and Modification of Nationwide Permits, Fed Reg. Vol. 241, Dec. 13, 1996, at 65879, 65891, effective February 11, 1997.

and that was what she believed Mr. Krauss was saying. When asked if her understanding of Mr. Krauss' testimony was incorrect, whether that would change her recommendation with regard to the adjusted preferred route, she responded that it would. Tr. Vol. VIII at 119. Citizens queries how moving poles anywhere from 0 to 4 feet can so dramatically affect the impact on wetlands as to make this route now acceptable. Such a conclusion seems illogical and incongruous.

Moreover, the environmental impacts of locating the line along the B&O Railroad should not be overlooked. A Staff workpaper was introduced during the hearing which stated that CEI had not identified the various habitat diversity found along the railroad right of way and that this was significant due to the undisturbed nature of the area since the time of the abandonment of the railroad. When questioned as to whether or not CEI had, in fact, made those identifications Mr. Yerian did not know. Tr. Vol IX at 70-71. Citizens Exhibit 12, stated in paragraph 5, "the section of the preferred that follows the railroad should be considered a cross country alignment with respect to ecological resources potentially affected. Also because it has been abandoned for quite a while, the corridor is well vegetated and it blends in the surrounding land." Id. at 74. Mr. Yerian explained that a cross county alignment would be an alignment that would not follow the existing intrusion. Id. Therefore, the view is that the railroad line is no longer an existing intrusion.

Mr. Yerian was also cross examined with respect to a staff workpaper document which was a letter from Steve Malone of the Ohio EPA to Mr. Yerian dated October 11, 1996. The following cross examination took place:

[By Ms. Migden]: If you could turn to the second paragraph . . . if states . . . 'however in this case, field investigation in the area has revealed that the railroad grade is overgrown in many areas, and doesn't provide the type of well-maintained corridor that would favor transmission line location' in addition given the large acreage, 'and it has a reference to 676 corridor and 14-ROW'; 'of regulated waters and wetlands enacted by the preferred route, the environmental concerns are clearly not minimal.' Do you see that?

[By Mr. Yerian]: Yes.

Q. Okay. Could you tell me what -- where it says 676-corridor and 14 row what it means if you know?

A. I don't know. I am assuming that 676 refers to acres in the corridor. And which corridor he is referring to here I do not know.

Q. If you would turn to the following page, the paragraph numbered 5, do you see that, Mr. Yerian?

A. Yes.

Q. There is a statement that states 'another concern is that the preferred route crosses 60 wetland areas (14 acres) impacting 9.2 acres of forested wetland.' Do you see that?

A. Yes.

Q. Ok. How many -- if you know how many will still be impacted as a result of the adjustment to the preferred route?

A. I don't know.

Id. at 76-77. The impacts and the recommendations cited above with respect to the B&O Railroad should not be overlooked.

Further, public testimony by those who live nearby shed additional light on the lack of suitability of the site.

... and if you think this railroad tracts is the right-of-way, it is quicksand.

It isn't a right-of-way. There is quicksand here, here, here. There will be no sinking poles. I don't know about anybody here, but I know about construction, and you don't sink poles in quicksand. Id. at 173-174.

* * *

You know, everybody is referring to this abandoned railroad track. Okay. This railroad track has only been abandoned by the railroad. The people that live along the railroad, a lot of them have reversionership to get this land back. We've been fighting for about two and a half years trying to obtain our land back. Id. at 179-180

... you should only allow CEI to construct transmission lines consistent with the actual power requirements and not lines of excessive, over designed capacity that cannot be justified. If any lines are approved, these lines should be constructed here they will have the least negative impact on the people of Geauga County. Id. at 183-184.

Its [the old railroad lines] history has been since the train has stopped running, they took out the tracks, they took out the railroad ties, they salvaged all the gravel in this area. It is den to actually bare soil that was original. The vegetation in that area now has grown considerably, and at this point, you can barely walk down the track. It's closing in. It is not contaminated. If it was contaminated, you wouldn't have grass growing on it and all of the other plant life.

The water in this area over here is within 50 foot of the right-of-way on both sides. The big beaver swamp contains about 15 acres. That other pond contains about four acres. There's an awful lot of wetlands there. There's a lot of big trees, a lot of forest. There's actually -- the Moon property is huge, and most of it is wild lands, or a good part of it is.

* * *

... the right-of-way is the width of a railroad tie. I'm not trying to be a comedian. It's the width of a railroad tie.

Id. at 202.

The fact that Mr. Yerian cannot testify as to whether or not the proposed adjustments alleviate the concerns set forth in this memo by Steve Malone is reason enough to deny consideration of the adjustments to the preferred route. Further the sworn statements of nearby residents clearly indicate the enormity of the problem of constructing lines on the B&O Railroad grade without causing a serious environmental impact. Citizens strongly recommends that the OPSB not accept these last minute adjustments given the potential for the extreme and severe and environmental impacts.

C. ROUTE 608

The question that has not been answered in this proceeding is why, if the 608 route was under consideration based upon a request from the Staff, no attempt was made to analyze placing the lines above the existing distribution lines along the front properties. It appears that CEI, once again, designed an alternative for failure. For some reason CEI does not want the 138 Kv lines down Route 608 and was determined to make sure that alternative did not work. Ridiculously, CEI engaged Dames and Moore to do extensive additional studies on the Route 608 route utilizing an option that was 36 feet in from the center line on the east and west side and 600 feet in from the center line on the east and west side. Mr. Krauss testified:

the problem with 608 and property ownership and the way the houses are is there is really not a typical type of location. There are some houses that are roughly 30 feet of the road and there are others that are more than 600 feet off. For some reason, the way the housing property ownership is developed in that area, it jumps all over the place.

Tr. Vol. VIII at 62. Mr. Krauss further acknowledged that no matter whether you go out 36 feet or 600 feet, they would be cutting through somebody's property in a manner that is not going to be acceptable to that homeowner. One can easily ascertain visually that placing the lines either 36 feet in or 600 feet from the center line of Route 608 in was going to have significant adverse impacts on a number of individuals. The question is, why did CEI extend the hearing several weeks and hire Dames and Moore do an analysis at an exorbitant amount of money, which tells us what we can tell with the glance of an eye? It is just simply ludicrous. Moreover, Mr. Krauss could not answer why CEI did not look at utilizing the existing corridor over the existing distribution lines. He did, however, acknowledge that if CEI ran the lines along the front of the properties, it would not be cutting into anybody's property as far as dividing it. Id. Ms. Edwards of Dames and Moore testified that there was no consideration of running the line along the roadway. Rather, she relied upon CEI's judgment. Tr. Vol. VII at 32. Nevertheless, Ms. Edwards testified that one of the objectives of siting was to provide the least environmental impacts. Tr. Vol. II at 37. Ms. Edwards also acknowledged that one approach that has been recognized as part of siting is to look for existing corridors that have already been disturbed. With regard to that issue, the following cross examination took place:

Q. [By Ms. Malone]: When you are looking at an existing corridor the reason you are looking at an existing corridor is that you are engaged in an activity which you believe will have an impact and you are trying to place that impact in the same location where there are already has been an impact to the environment; is that correct?

A. [By Ms. Edwards]: Yes.

Q. And the assumption there is that you are reducing the overall impact to the environment because you are impacting an area where it's already been impacted?

A. Yes.

Tr. Vol. II at 48-49. Given this, there is absolutely no rationale or explanation as to why the utilization of the existing corridor along Route 608, where there would be the least adverse environmental impact possible, was never examined. Given the fact that there are already 4.8 Kv lines along Route 608, it makes eminent sense to utilize that same existing corridor. How could CEI have overlooked something so obvious? How could CEI have ignored comments that have been made by Citizens and others during the public hearing on this issue? What was the purpose of the Route 608 exercise if not to be a demonstration of futility and waste? Citizens maintains that had the proper analysis been conducted, which would have been to run the line over the existing distribution lines, the least adverse environmental impact would have occurred.¹¹

VII. CONCLUSION

Throughout this case, there has been an unending demonstration of inconsistencies, subterfusions, and designs for failure all motivated towards forcing a decision favoring a 138 Kv transmission line. OPSB should not be rushed to any rapid, unsupportable conclusions. The application of CEI should be rejected in its entirety. Instead, CEI should be instructed to review the distributed generation and 36 Kv line options in detail. Moreover, CEI should

¹¹ It should be noted in this discussion of Route 608, that Citizens does not support the construction of 138 kv lines.

be instructed to provide a fully supportable and properly prepared forecast of its need that can be used to determine the best alternative. CEI should also be ordered to conduct serious and affective targeted demand side management which can help alleviate a number of the burdens in the area in conjunction with other alternatives. Finally, the routes selected and modified by CEI should be rejected due to their environmental impacts.

For all of the reasons above, Citizens respectfully requests that the application be rejected as unsupportable and that none of the proposed routes be certificated for a 138 Kv transmission line.

Respectfully submitted,


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ON BEHALF OF CITIZENS FOR A BETTER
WAY

APPENDIX A:
COMMENTS FROM THE PUBLIC

I am not here to discuss the impact of the preferred route on the three century homes that are on our land, because who is to say that a house built from blood and sweat in the 1800s is worth any more or less than one built from blood and sweat in the 1990s. Id. at 46.

Citizens for a Better Way represents over 140 people who have and still do support the original purpose for the group for which the group was formed. Id. at 47

CEI has been disingenuous with the community in regards to the information about this project from the very start. . . . there are solutions that, a. that have virtually no environmental impact, b. have virtually no impact on the residents, and c. costs the ratepayers significantly less than the CEI proposals. Id. at 49

* * *

CEI would have us believe that just 80 foot steel poles are being constructed. However, each pole would have to be supported by a six foot diameter concrete base with an average of 25 feet of depth into the ground.

In addition, access roads would have to be of sufficient base to support construction equipment and maintenance equipment into the future. These are permanent to our environment. These intrusions are permanent. Id. at 54-55.

Ohio has 10 percent of its original wetlands left. That's all. And they are being traversed. Id. at 58. (Emphasis added)

* * *

So if it (a line on Rt. 608) came through the back portion of the property, it would completely destroy these wetlands and all kinds of wildlife. Id. at 75.

* * *

I would like to address the article that appeared November 1st, ironically, in the News Herald. The subtitle says, "Researchers find no clear evidence of health effects from electrical fields."

That may be true. These studies only back on 1979. That's only 17 years, and I don't know about the rest of you, but 17 years does not a lifetime make, thank God, or we wouldn't even be here.

I would like to see some long-term studies done, 30, 40, years, the effects of these towers. If they place them 600 feet from the road, that puts it 20 feet from my house. Well, I would like to see what that's going to do to my children in 30 years. What is their cancer rate going to be? Also, am I going to be a grandmother someday? Is that going to affect that?

I have traveled the country presenting clinical findings to groups of physicians and nurses. I have trained sales representatives on how to dissect studies. This is a area of great interest to me, and trust me, it is something I will be looking at further. Id. at 77-78.

* * *

Hopefully, as a community, we can join together and agree on some sort of solution. Id. at 80.

I would also like to say, we'd [SEED] like to encourage CEI to consider energy efficiency to reduce peak demand and improve voltage support on the existing power lines, as this has been effectively used by other utilities to defer new power line substation upgrade expenses.

... from this data, from the Powering the Midwest study, in Ohio, there should be 1200 megawatt wind generation capacity available for less than 5 cents a kilowatt hour, and almost 76,000 megawatts for less than 6 cents a kilowatt hour.

This compares to the average residential rate for Centerior of about 13 $\frac{1}{2}$ cents a kilowatt hour. This was told to me by a Centerior employee about three years ago, and a peak rate of about 16 to 16 $\frac{1}{2}$ cents per kilowatt hour. Id. at 89-92.

More power. Like TV's Tim, "The Tool Man," Taylor, CEI says that Geauga County needs more power. Thus, concerning the OPSB criteria of need, CEI has shown the need for these lines only through a traditional load analysis with and without contingency conditions.

But to me it is strange that this load analysis is for all of Geauga County, with no differentiation between residential and industrial load centers or high and low density residential centers.

Certain areas of western Geauga County and the Middlefield industry area may need more reliable power or more consistent voltage, but this does not necessarily indicate the need for more power for all of Geauga County. Id. at 96.

Should numerous residents and the environment of Geauga County have to suffer just to bring more power to a small industrial complex on the fringes of the power grid? One might also ask whether this concentration of load at the end of the power grid is in and of itself the cause of its own problems. Id. at 96.

Again, are these lines really needed? Is a small generating station in Middlefield so farfetched? Id. at 97.

I also own property up on top of Woodin Road where the preferred route is supposed to go through. My family has been there since 1874, and it hasn't been damaged since then. I'd like to see it that way for my son. He's the seventh generation. I think there are a lot of different ways this could be done. Id. at 103.

* * *

I am here on behalf of the Board of Claridon Township Trustees, and we have adopted a resolution urging the Ohio Power Siting Board to adopt their staff's recommendations regarding the route of the Rachel transmission line;

— — —

I've also walked the transmission lines.

And I personally want to address the social and environmental impact, the wetlands, the wildlife and the beautiful rolling hills in Geauga County that would be littered with 80-foot power transmission lines.

Also, people have been referring to the B&O Railroad right-of-way, and the B&O Railroad right-of-way is currently involved in a lawsuit. It is not publicly owned 100 percent. There are portions of the B&O right-of-way that are privately owned that went through the process legally to have the land reverted back to the landowners. And it is also true, just by coincidence, that two of these landowners that would be affected, one would be affected by both the alternate and preferred route, and the other would be affected by the preferred route, are widows in my township.

And it seems like the large public utilities coming in and by eminent domain or whatever use, because they are not supporting this transmission line, then, therefore, go after, you know, the old story of the railroad or the power utilities taking away land from widowed ladies, and I support them to protect their privately owned property. And also this land is in a lawsuit currently. Id. at 106-107.

The other thing I'd like to say is CEI, by addressing the people along 608, this hearing is for the preferred or alternate route, and it has been very successful to divide and conquer the citizens of Geauga County that want to address this.

And I am ashamed of the letter that Mr. Ted Krauss sent out to be able to fill this room up with people along 608, because this hearing is about the alternate and the preferred route and not about the other. And I support the citizens for being here and standing up. Id. at 108.

And I want to say that I support Citizens for a Better Way and oppose the CEI, all their routes. Id. at 110.

* * *

Everybody keeps pounding the issue that the preferred route has only 19 homes. I just want to set the record straight.

On the referred route, there are 19 properties that are crossed, there are 9 residents within 200 feet, there are 75 residents and two trailer parks within 1,000 feet. There are 306 homes in the trailer park, you don't count. But the total is 408 private residences on the preferred route. That's the truth. Id. at 115.

They [CEI] don't have to scar up the neighborhood they don't have to destroy the wetlands, they don't have to destroy anybody's homes. Id. at 117.

What are the advantages? [to distributed generation] No impact to the homeowner, there's no impact to the environment, no culverts, no access roads, no wetlands are crossed. There's a dramatic reduction in the length of the lines. CEI continues to complain about their service line distribution grid is too long. We reduced the lines. Id. at 117.

Construction time for one of these things is very short. They are modular units, they're already built. You buy it, pour a pad, stick it on, run a couple lines; its over. Middlefield business doesn't have to wait 20 years to get an answer. Id. at 118.

The Rachel transmission project as proposed by CEI is not in the best interest to Geauga County. It's in the best interest to CEI. If this were not the case, CEI would have heard our voices and worked with us, not against us for the best solution.

If the issue were only disrupting a few individual homes and the devaluation of residential property, maybe we could overlook it. After all, we are only people and we're not endangered yet.

If the issue were only the permanent and cumulative destruction of a portion of the last 10 percent of the wetlands left in Ohio, may we could overlook it. After all, some wetlands will be left, just less of them.

If the issue were only a project designed for the capacity of 740 percent more than CEI's own application says it needs at Rachel, and 300 percent more than CEI's forecasted need for all of Geauga County in the year 2004, maybe we could overlook it. What's a little excess capacity for the energy makers, our neighbors and friends?

If the issue were only an estimated \$17 million to build a project when the problem could be solved for five or six, may be it could be overlooked. After all, when you're paying the largest rates in the State of Ohio, what's the big deal about paying a little more?

However, it's not any one of these issues, it's all of them; one issue piled upon another, until the avalanche of evidence is overwhelming and cannot be overlooked.

Mr. Glazer, we thank you and the Power Siting Board for granting us this venue to be heard. We only ask for a fair hearing based on the evidence. We are sure if we get that, you'll come to the same conclusion that we all have come to. This application has to be rejected and the best solution for the ratepayer, for the individual homeowner, for the Middlefield business and for the environment must be implemented. Thank you. Id. at 118-120.

* * *

The proposed routes for the Rachel transmission line do not abut where I live, neither one of them. However, they do come nearby. I am here because I want to stay in Geauga County, and because the construction of either of these routes means significant diminishing of the quality of life here.

* * *

I have spent much of my adult life in New England, especially Cape Cod. Over the past four years, I've also lived in Oregon, as well as in the rain forest of Costa Rica, Guatemala and Honduras doing research for a Fulbright grant.

— — —

My project in Central America concerned rain forest conservation and the ways that people are trying to implement sustainable life-styles to improve their economy and protect their natural resources. Now, if they can do this in poverty stricken areas of Guatemala and Honduras, I think we can do it here.

[MR. GLAZER:] Do you live along the preferred route or the alternative route?

[MS. NIXON:] What difference does it make? I am represented by the Citizens for a Better Way, and ably so, by young men who have given their time away from their businesses and their money out of their pockets to help me and all of you.

I come here to speak on behalf not of myself, but on behalf of my neighbors, who will be forever affected by this issue or additional power lines. I speak now, because in the beginning there were public meetings, and CEI representatives, you tried to tell me how good it would be for me.

In fact, at the first meeting which I attended, the gentleman who designed the routes told me that I would personally benefit by receiving more electricity. At another meeting you told me it would increase the value of my property. You apparently forgot to check with the local real estate people.

Although I knew your theory to be a fine example good old-fashioned balderdash, and I did my own check and was informed that the lines already running through my farm not only discourage prospective buyers, but caused them to be completely disinterested. So much for your great selling job. Id. at 129-130.

Still speaking directly to those of you representing the power company, I wish to express my dismay of your current tactics. Apparently you did do research on the topic of military tactics, and managed to come up with the time honored maneuver, divide and conquer.

You have now resorted to pitting neighbor against neighbor, which would probably be successful in an area where good old-fashioned caring has gone out of fashion; but here in Geauga County, I have personally been comforted countless time and have literally been kept afloat through some traumatic times by the spirit of caring of my neighbors.

It does not matter whose property is affected. The result is the same: destruction and disillusionment, loss of homes, way of life and lifelong dreams. I have always been taught that one

person's life or property was just as valuable as that of 19 or 119. You see, I believe in the right of the individual, not in numbers.

Now I would like to speak to those of you representing the business community who are crying poor electrical services. There are ways, I have been told, and so have you been told, of living with this. You decided to locate your business here. We decided to live here. Your profits are affected. Our lives are affected. Can we coexist and try to handle this, or must we draw battle lines and try to survive the war?

In conclusion, I speak to those who have been concerned enough to give their time to come and listen to us. We ask that you really hear us, and may your decision be favorable to those people whose property and lives will be affected and not to those businesses whose profits will be affected. Id. at 132.

* * *

When a community is involved, it makes sense to explore and choose an alternative to the transmission lines that will be least invasive and damaging to the people in their environment. Id. at 136

* * *

Every day we're making progress on the HIV virus. So tell me, why can't we come up with a way to put in these lines to give us the power that we need without destroying all our lives?

The Carver family has been around for over 100 years. Johnson Rubber says, "I've been here for 100 years." Yeah, but it's not your business that's being affected by these lines. It's not your business that's being told you might have to move. I want to stay here. I want my children to grow up here. And I don't want to see us having to move, because CEI wants to put in some power lines. Id. at 141-142.

All I would like to end in saying is I am opposed to both lines. I don't see -- I understand there is a power supply problem in southern Geauga that they're experiencing; but I do not approve of destroying northern Geauga to achieve it.

* * *

I hope Geauga County doesn't get cut up, and I'll leave it at that. Id. at 145.

I am the President of Weslack Sportsman's Club, which is right in the middle of Hambden. . . . I really would not like to see that part of the country ravaged by overhead lines, and that all I have to say. Id. at 146.

* * *

I represent or am a member of Citizens for a Better Way, and I do not like the fighting between the two lines either. I think we can come up with alternative solutions, and I really agree with what people have said here, particularly the group of Citizens for a Better Way as well. And I agree, I just think we need to cooperate and work together. Id. at 148.

Now, on a personal note, my house is in the report as being listed as approximately 125 feet from the center of the right-of-way. Actually, its 92 feet. . . . There's no mention of the barn on the back of my property that sits within the 30 feet that they would take for the right-of-way. Are they going to demolish it? Id. at 149.

[MR. FARKAS:] You are on the preferred route?

[MR. PLANTS:] Yes. Now, I mentioned this, because CEI wants to come within the width of this room from my house. They have never personally contacted me. They have not come to my house. They have not called me on the telephone.

I have gotten a form letter telling me that you give them the right to come on my property and look at it. End of discussion. They want to come that close to me. When I finally contacted them, all I got was attitude.

I had questions. I was blown off. Then finally told me that if I was too big of a problem, the hell with me, they would buy the property and put the line right over the top of my house. That's a quote. That's the kind of cooperation I got from them.

. . . . I mean, I think they owed me and everybody else that's affected, whether it's cutting their farm in half or coming in the front door and out the back door, they should have been on my property talking to me personally. They haven't chose to do that. I mean, I think that's arrogance to the ninth degree, and they could care less what I think.

* * *

They're going to take out my septic system. There is no alternative site for it, so it has to be moved. No we're talking pumping and everything else. A constant problem for me the rest of my life, are they going to there to take care of it? I doubt it. Okay? Id. at 149-151.

And the other thing, that reminds, they have proven that they don't need that much power, but they want to put a four-lane highway through the middle of Geauga County when a dog path will do the same trick. Okay?

. . . if you take one thing home from this meeting, take the passion that the people in this room have exhibited for their land, their family and doing things the right way. Id. at 152-153.

* * *

You get a right-of-way across your property and it has to maintain some type of road. They put down herbicides so it don't grow. Is this going to affect my water system? Am I going to lose my well? I have a spring-fed well. It's not quite down in the ground, you know, 200 feet. It's only down in the ground about four. So that would be of a concern to me, too. Id. at 156.

* * *

However, I also urge the Board to consider whether Geauga County needs a line to supply 440 megawatts of power to a substation designed for only 60 megawatts, and if low voltage lines along existing routes would be adequate for the county's projected needs. I am not convinced that the 80-foot lines to carry that much power are necessary.

Please consider if there are other means of supplying power to the Middlefield businesses, other means that would be less expensive, less intrusive to carve up less of our county. I would urge the Board members to please consider the MSB Energy Associate findings that have been provided to you by Citizens for a Better Way. Id. at 160-161.

I resent what CEI has done. You took a divide-and conquer procedure. I don't like it. It's not right. You knew that if you went one way, the other guy would be mad. And you knew if you went that way, they would be mad; so you threw a third party in. I've used those tactics, because I'm a supervisor. It works. It works. It works. Id. at 162.

You're a necessary evil. We need you. But we don't like to be used. We don't like to be played with. We don't like to be shadowed with the truth sometimes. I don't like it.

. . . . And I also know that there are ways that you could figure this out that most people in this room could leave happy, if you'd do alternative methods. And it can be done. But we have a tendency to take the easier way out. I do it, too. I know the game. Id. at 164.

* * *

I am currently the chairman of the Hambden Township Trustees.

* * *

At no time does the Hambden Township trustees -- do the Hambden Township Trustees want to split this township. We object to all of the overhead lines being proposed in this meeting tonight, including the alternate and the preferred and Route 608.

We were privy to a report that was sent to us or given to me by MSB Energy and Associates, and I'm sure you have that report. I read it and studied it. We've heard the work "distributed generation" tonight. It makes a lot of sense.

And CEI, you ought to be ashamed of yourself. These people in Middlefield have needed power for years when distributed generation was at your fingertips. Id. at 168-170.

* * *

I will quote, "John Carroll University does not use their 60 acres except for recreational properties." You can read, whatever.

That is not true. I live directly across the street from it. Four to seven days a week that property is used, either for biological studies, extended graduate studies, environmental studies, education, adult education; and I can personally say that the landscaper, who happens to be my landscaper, too, can tell you that they are doing even more development to continue on with more academic parts of it. Id. at 171-172.

... her parents' property and my property are the headwaters of the Cuyahoga River, and we are the major suppliers of the Akron reservoir system. And we purposely keep that property safe.

I want a quality life here. Please, Power Siting Board. We want a peaceful life and a quality life, Geauga County residents. Consider, okay. Id. at 177.

But those homes that are being put in aren't going to be all electric like ours is. We'll keep it all electric until the furnace blows or something, but we do have gas available now. And in all these homes that they're going to be building, these homes are, like, one acre to three acre plots, they're not cluster homes.

So I don't know what they're saying about this needed future total electrical demand, but please think of it, this is still a rural area and the stuff that's being built around here are on these larger areas; you know, one home is taking up three acres, that type of thing, which I just love. Id. at 190.

* * *

... they think we're stupid. They told us at an earlier meeting that these poles would enhance our property values. Earlier a friend of mine, Jason Pinsky, who is a landscaper here, I spoke

to him and he told me that he hasn't installed any of these poles in anyone's house in Hunting Valley or Pepper Pike. No one has asked for them as yard ornaments. Id. at 193.

... It seems to me that a company gets used to doing business in a certain way, and until somebody puts up a roadblock and says, "No, you're not going to do it that way this time," they're just going to do it the same old way. Id. at 194-195

As I have viewed this last couple hours' worth of dialogue, I perceive that CEI has managed to put a gun to one person's head and told the other one they've got to jump off a cliff. Id. at 197.

I would hope that the Board here will notice one thing. You know, this meeting started out with everybody against everybody else. So if it goes from this one to that one, it's off my back. Well, I think at this point, we're finally realizing that none of us want it. None of us do. If there's another way to do it, please do it.

I hope that you notice one thing. We're all sticking together. We're a good community. Id. at 203-204.

* * *

I know that everybody here feels like their backyard or maybe their front yard is a little bit of heaven, and I think Geauga County is the prettiest county in Ohio. I would like to keep it that way.

I oppose all power lines in this county. I think that there is a better solution. As a matter of fact, I know there's a better solution. And if it costs CEI more money, so be it. We're paying for it already, so what the heck. Id. at 204-205.

There is no good line, and you need to listen to all these people in this room, the ones that left. They don't want power lines in this county. There is a better way. It's your job to tell CEI that we want that solution. Id. at 205.

* * *

CEI isn't really known for a pattern of accurate forecasts and good decisions. This book, Death Spiral, the Brief Rise and Rapid Decline of Centerior Energy Corporation, An Insider's Unauthorized Account, details this and should be mandatory reading for you, as well as concerned ratepayers. Id. at 213.

Now, in the staff report investigation, page 15, . . . the company concluded that it is not possible to achieve the necessary reduction in demand through the use of DSM, because there is not enough existing load to offset the DSM program.

If we aren't using enough electricity to make conservation work, then we don't need transmission lines. The staff reviewed information provided by the company, a quote, "Staff believes it would be difficult for DSM to achieve reduction."

It sounds to me like the staff should be speaking to experts in the field of demand side management and not a utility who cannot even manage its own company's finances and whose forecasts are chronically overinflated and whose strategy for profit making is based on expanding demand instead of doing what efficient utilities do by practicing successful demand side management. Id. at 216.

* * *

I really resent CEI coming in and causing such a rift between the residents here in the county, while they want to fill their pockets with the very money that comes from the people that they're ripping apart.

Everybody has referred to the abandoned B&O Railroad as being public access. It is not public access. That property has been sold and the property that we have along here, it is deeded that it is to come back onto our property, it is to be reattached to our property. And that has not been done, I mean, as far as the railroad selling it. Id. at 218.

* * *

I'm Director of Geauga Park District.

. . . I thought they [the staff] did a very thorough job, with one exception that I would like to add for the record.

They did not recognize in their report the bald eagles that are nearby on the property. On a consistent basis, twice within the last week, we have seen a pair of bald eagles, two adult, mature breed bald eagles on East Branch Reservoir, which is right here, as you see, very close.

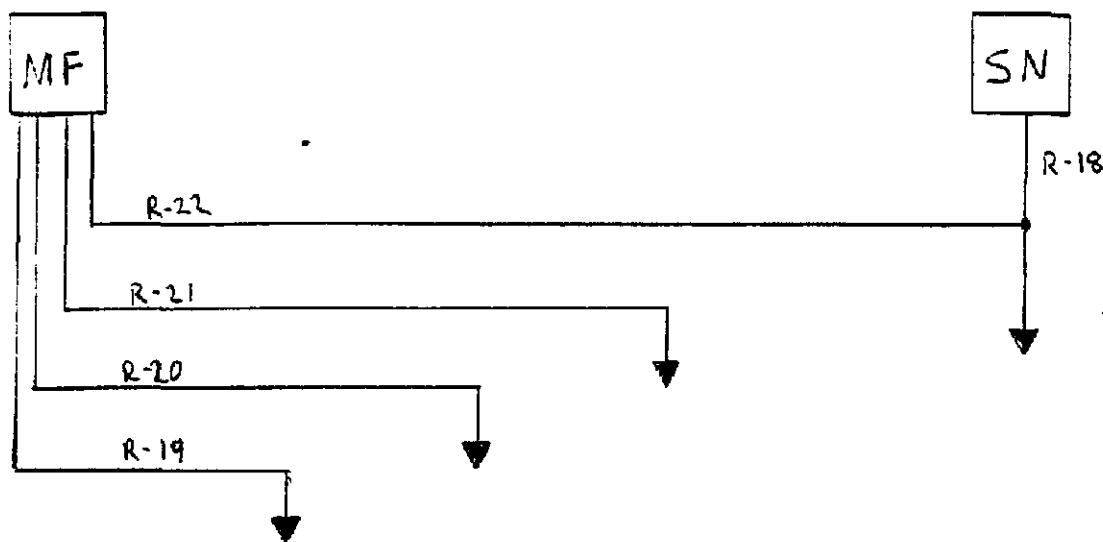


FIGURE 1 EXISTING CEI SYSTEM

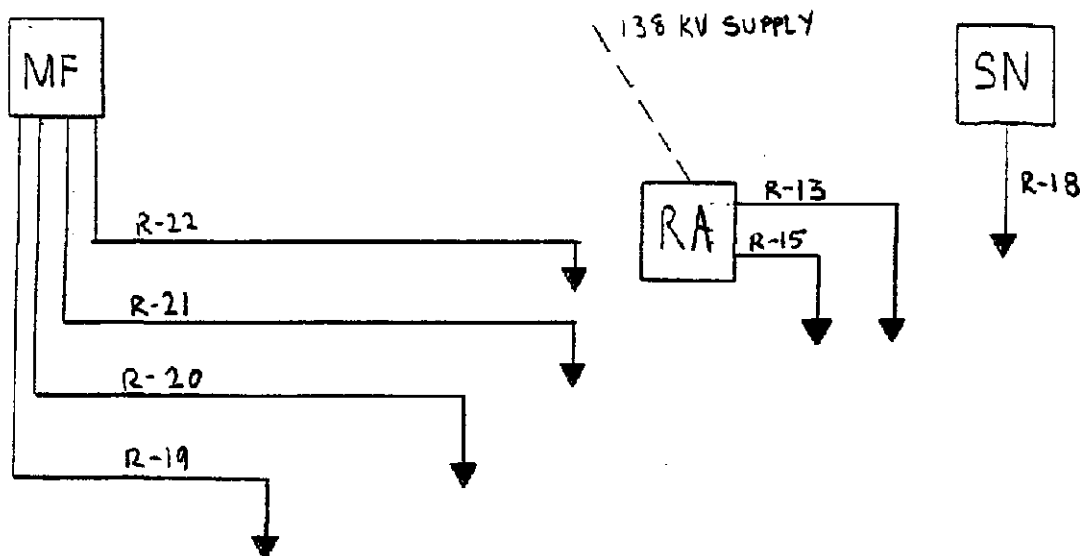


FIGURE 2. CEI 138KV RACHEL PLAN

RA- RACHEL SUBSTATION
MF- MAYFIELD SUBSTATION
SN = SAMBORN SUBSTATION
↓ = ELECTRICAL LOAD

50 SHEETS
22-141 100 SHEETS
22-142 200 SHEETS
22-144



22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS

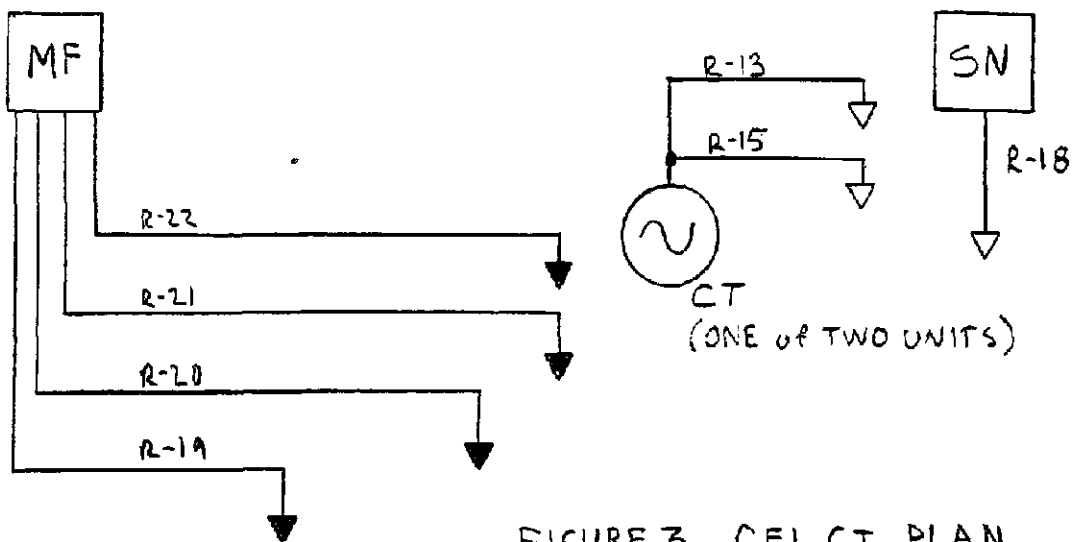


FIGURE 3. CEI CT PLAN

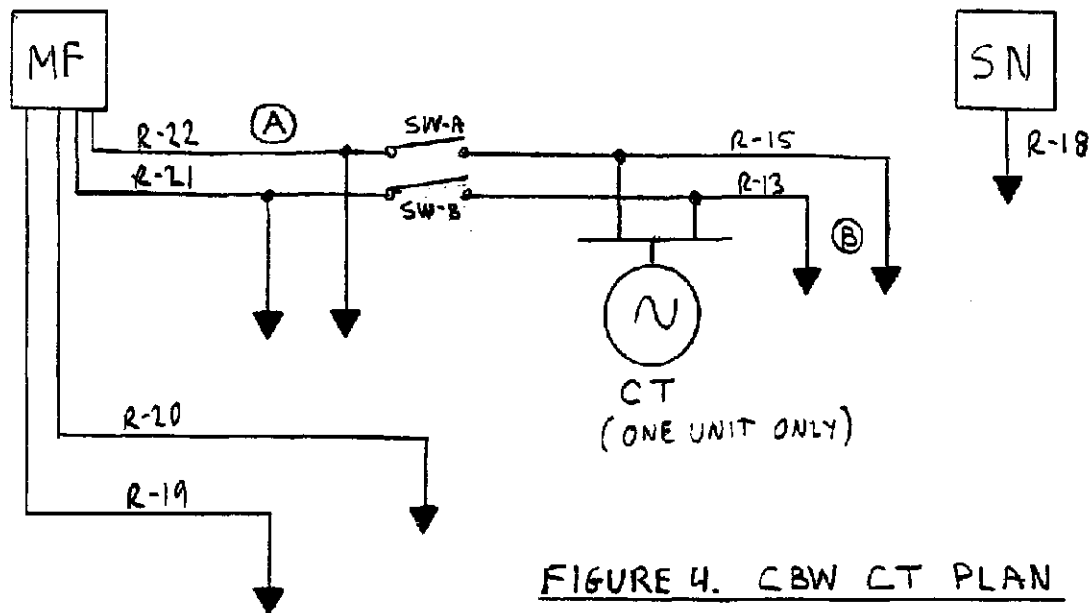


FIGURE 4. CBW CT PLAN

MF: MAYFIELD SUBSTATION
SN: SANBORN SUBSTATION
CT: COMBUSTION TURBINE
SW-A } SWITCHING DEVICES
SW-B }

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS

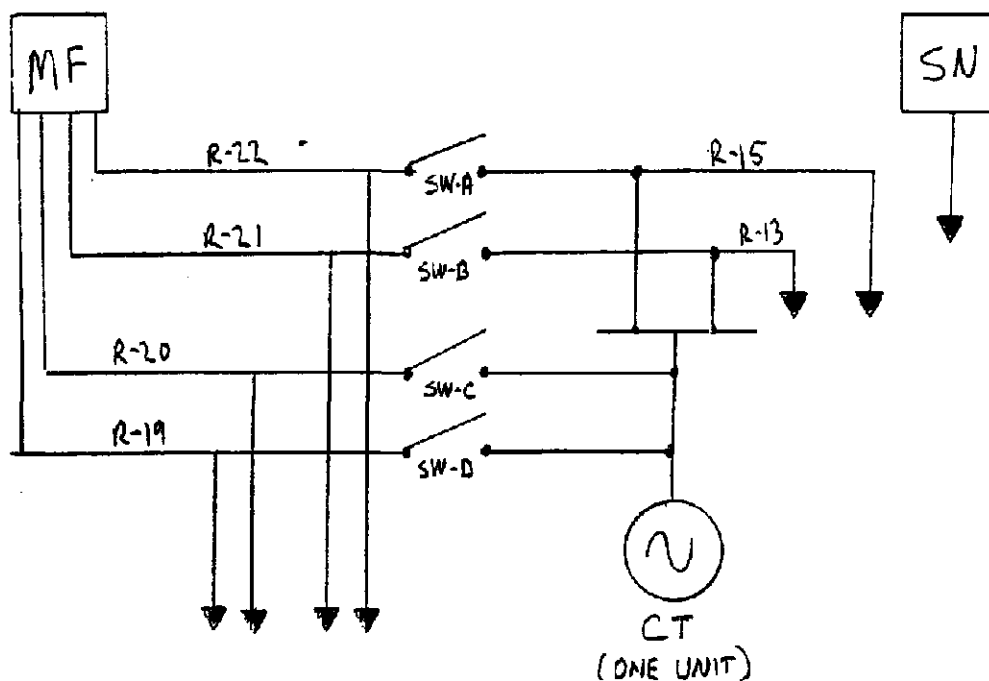
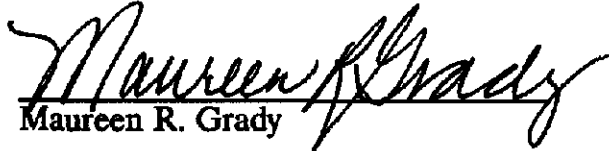


FIGURE 5. CBW ALTERNATIVE CT PLAN

MF= MAYFIELD SUBSTATION
SN= SANBORN SUBSTATION
CT= COMBUSTION TURBINE
SW-A }
SW-B } = SWITCHING DEVICES
SW-C }
SW-D }

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing has been served by facsimile, first class mail, postage prepaid, or hand delivered to the following parties of record this 21st day of February, 1997.


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