COMMONWEALTH OF KENTUCKY

BEFORE THE

PUBLIC SERVICE COMMISSION OF KENTUCKY

RECEIVED

FEB 20 2012

PUBLIC SERVICE
COMMISSION

IN THE MATTER OF

APPLICATION OF KENTUCKY POWER COMPANY)	
FOR APPROVAL OF ITS ENVIRONMENTAL)	
SURCHARGE PLAN, APPROVAL OF ITS AMENDED)	
ENVIRONMENTAL COST RECOVERY)	CASE NO. 2011-00401
SURCHARGE TARIFFS, AND FOR THE GRANT OF)	
CERTIFICATES OF PUBLIC CONVENIENCE AND)	
NECESSITY FOR THE CONSTRUCTION AND)	
ACQUISTION OF RELATED FACILITIES)	

RESPONSES OF KENTUCKY POWER COMPANY TO SIERRA CLUB SUPPLEMENTAL SET OF DATA REQUESTS

February 20, 2012

VERIFICATION

The undersigned, KARL R. BLETZACKER, being duly sworn, deposes and says he is Director, Fundamental Analysis for American Electric Power, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge, and belief.

Karl R Bletzacker

KARL R. BLETZACKER

STATE OF OHIO)
) CASE NO. 2011-00401
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Karl R. Bletzacker, this the 17th day of February 2012.

Peggy Wright

Notary Public

NOTARY PUBLIC STATE OF OHIO

Peggy Wright
Notary Public-State of Ohio
My Commission Expires
July 6, 2015

My Commission Expires: 7-6-15

VERIFICATION

The undersigned, ROBERT L. WALTON being duly sworn, deposes and says he is Managing Director Projects and Controls for American Electric Power, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge and belief

ROBERT L. WALTON

STATE OF OHIO)
) CASE NO. 2011-00401
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Robert L. Walton, this the 15 day of February 2012.

Notary Public

My Commission Expires: 5-29-2012

VERIFICATION

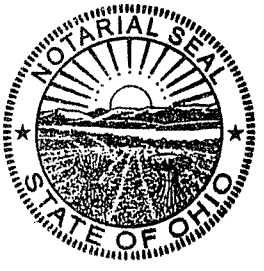
The undersigned, SCOTT C. WEAVER, being duly sworn, deposes and says he is Managing Director Resource Planning and Operation Analysis for American Electric Power, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge and belief

SCOTT C. WEAVER

STATE OF OHIO)
) CASE NO. 2011-00401
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Scott C. Weaver, this the 16th day of February 2012.

Notary Public



Cheryl L. Strawser
Notary Public, State of Ohio
My Commission Expires 10-01-2016

My Commission Expires: October 1, 2016

VERIFICATION

The undersigned, Ranie K. Wohnhas, being duly sworn, deposes and says he is the Managing Director Regulatory and Finance for Kentucky Power, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge, and belief

Ranie K. Wohnhas

COMMONWEALTH OF KENTUCKY)
) CASE NO. 2011-00401
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Ranie K. Wohnhas, this the 17th day of February 2012.

Judy K Rasgnist
Notary Public

My Commission Expires: January 23, 2013

Kentucky Power Company

REQUEST

Please provide the Company's financial assumptions below.

a. Assumed inflation rate (or rates if different across different years or commodities) Weighted Average Cost of Capital

b. Weighted Average Cost of Capital

c. Real discount rate

d. Nominal discount rate

RESPONSE

a. See page 2 of this response.

b. The weighted average cost of capital is 8.64%

c. The Company did not calculate, or use a real discount rate.

d. The nominal discount rate is 8.64%.

WITNESS: Scott C Weaver

	General Inflation Factor
2012	1.80%
2013	1.70%
2014	2.70%
2015	2.40%
2016	1.70%
2017	1.50%
2018	1.60%
2019	1.50%
2020	1.50%
2021	1.50%
2022	1.50%
2023	1.50%
2024	1.50%
2025	1.50%
2026	1.50%
2027	1.50%
2028	1.50%
2029	1.50%
2030	1.40%

Kentucky Power Company

REQUEST

Please provide any analyses prepared by the AEP Fundamentals group on the accuracy of their past projections of coal prices, natural gas prices and power prices.

RESPONSE

The Company has not prepared any formal analysis regarding the accuracy of long-term fuel price projections. However, nearby forecasts (12 months and less), have been quite accurate in determining fuel demand relative to Gas-Weighted Heating Degree Days and Population-Weighted Cooling Degree Days. Once weather-related demand is understood, established price elasticity has guided the Company to accurate nearby forecasts. Long-term forecasts include an amalgamation of various sources of information. The Company offers that the practical path to long-term accuracy considers potentially diverse views from established energy consultancies as well as the EIA.

WITNESS: Karl R Bletzacker

Kentucky Power Company

REQUEST

Please identify the underlying assumptions contained in each of the 25 .FSV files for the Strategist model, provided on February 7, 2012. Which files produced the results associated with the four (4) resource alternative options shown on pages 11 and 12 of Weaver's testimony?

RESPONSE

Each of the 25 .FSV files produced the results for one of the five unit disposition alternatives shown on pages 11 and 12 of Mr. Weaver's testimony under each of the five respective commodity price scenarios. For example, the file named "Ft-csapr option 1.fsv" provides the Strategist inputs and run results for the evaluation of resource alternative Option #1 (Big Sandy 2 Retrofit) under the Fleet Transition-CSAPR commodity pricing scenario. See page 2 of this response for a description of which resource alternative and commodity pricing scenario is included in each of the 25 .FSV files.

WITNESS: Scott C Weaver

	Big Sandy Alternative Option Assumed					Fleet Transition - CSAPR Commodity Price Scenario Assumed				
	Option #1	Option #2	Option #3	Option #4A	Option #4B					
.FSV File Name	Big Sandy 2 Retrofit	Retire Big Sandy 2 and Replace with Brownfield CC	Retire Big Sandy 2 and Replace with Repowered Big Sandy 1	Retire Big Sandy 1&2 Replace with PJM Capacity Until 2020	Retire Big Sandy 1&2 Replace with PJM Capacity Until 2025	BASE Band	HIGHER Band	LOWER Band	No Carbon	Early Carbon
FT-CSAPR Option 1	Y					Y				
FT-CSAPR Option 2		Y				Y				
FT-CSAPR Option 3			Y			Y				
FT-CSAPR Option 4 ICAP to 2020				Y		Y				
FT-CSAPR Option 4 ICAP to 2025					Y	Y				
HIGH BAND Option 1	Y						Y			
HIGH BAND Option 2		Y					Y			
HIGH BAND Option 3			Y				Y			
HIGH BAND Option 4 ICAP to 2020				Y			Y			
HIGH BAND Option 4 ICAP to 2025					Y		Y			
Low BAND Option 1	Y							Y		
Low BAND Option 2		Y						Y		
Low BAND Option 3			Y					Y		
Low BAND Option 4 ICAP to 2020				Y				Y		
Low BAND Option 4 ICAP to 2025					Y			Y		
NO CARBON Option 1	Y								Y	
NO CARBON Option 2		Y							Y	
NO CARBON Option 3			Y						Y	
NO CARBON Option 4 ICAP to 2020				Y					Y	
NO CARBON Option 4 ICAP to 2025					Y				Y	
EARLY CARBON Option 1	Y									Y
EARLY CARBON Option 2		Y								Y
EARLY CARBON Option 3			Y							Y
EARLY CARBON Option 4 ICAP to 2020				Y						Y
EARLY CARBON Option 4 ICAP to 2025					Y					Y

KPSC Case No. 2011-00401
Sierra Club's Supplemental Data Requests
Dated February 8, 2012
Item No. 3
Page 2 of 2

Kentucky Power Company

REQUEST

Please clearly define and reconcile the major groups of capital costs used in the Strategist model with those described in witness testimony, e.g. costs of DFGD, costs of boiler modification, costs of life extensions, etc.

RESPONSE

The capital costs in Table 2 in Mr. Weaver's testimony were used as the basis for the capital costs of the four alternative options defined in the PROVIEW module of Strategist.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Comparative Cumulative Present Worth (CPW) of Options at Exhibit SCW-5, Figure 5-1.

a. Please confirm that the columns labeled "Delta Retrofit" refer to the difference in CPW, or "comparative" CPW, of the median value of Options 2, 3 and 4b, relative to the median value of Option 1.

b. Explain why Option 4a has been excluded from this Monte Carol analysis.

c. Please describe if this analysis used a 15-year, 20-year, or some other length of retrofit recovery period.

d. Please confirm that the base case assumptions in the Strategist model, with results as portrayed in Exhibit SCW-4, are similar to the mid-range of assumptions that inform the Monte Carlo analysis, results of which are shown in SCW-5.

e. If not, please explain why the base case assumptions would not be in the mid-range of assumptions that inform the Monte Carlo analysis.

f. Please explain, in detail, the discrepancy between the results shown in the delta columns of SCW-5 Figure 5-1 and SCW-4 with attention to both the magnitude and directions of results.

g. Please explain, in detail, why the Strategist model shows a net benefit (in 3 of 5 cases) for pursuing Option 4b, but the Monte Carlo analysis shows a net loss for pursuing this option.

RESPONSE

a. Correct. The option comparisons are relative to the value of Option 1 at both the cumulative 50th percentile (median) simulated result, as well as the 95th percentile simulated result.

b. For purpose of execution economy, in connection with this stochastic modeling it was deemed adequate to represent only the 'longer' (market) term alternative from "Option 4" (i.e., Option 4B) as it was reasonably assumed that shorter-term (Option 4A) results would be relatively less favorable as they were under the discrete Strategist modeling.

c. A 15-year recovery was assumed.

d. See the response to part f.

e. See the response to part f.

f. The results vary for one primary reason: the models are unique and thus have different internal dispatching logic that can result in absolute answers that are different. Because of this, results between models, while preferably similar, do vary and are not directly comparable or reconcilable. Additionally, as the models are employed in this case, the Strategist model uses discrete forecasts to arrive at a CPW. Aurora employs dynamic, interrelated forecasts that have distributions of possible input values (but whose median input values are those used in the Strategist model). Given enough iterations of Aurora, one might reasonably expect the median values of the Aurora solution to approximately equal the Strategist solution, save for the inherent (and proprietary) differences in the models' internal logic.

   In one dispatch model (Strategist), Option 4B fared relatively well compared to Option 1 in some cases, without regard to the volatility of the possible outcomes. In the second model (Aurora), Option 4B fared significantly worse than Option 1, not only on the basis of the median outcome, but also on the basis of adverse outcomes, as measured by relative RRaR results. In summary, this *latter* relative measure was the primary focal point of the Aurora-based stochastic/Monte Carlo-based risk modeling results, not the 'absolute' CPW results. That is, as indicated in Company witness Weaver's direct testimony on page 47, line 19 through page 48, line 2, while under the discrete analyses results offered by the Strategist modeling Option 4B represented a "near wash" with Option 1, the results of this Monte Carlo analysis --as measured by RRaR-- indicate that this Option 4B exhibited far greater levels of risk (via far higher study period revenue requirements) for KPCo's customers.

g. See the response to part f.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

See Direct Testimony of Scott Weaver, Exhibits 1-4

a. Please describe which variables are allowed to vary stochastically in the Monte Carlo analysis.

b. Please indicate the range that those variables are allowed to take in the Monte Carlo analysis.

c. Please explain how the correlations shown in Table 1-4 interact with the stochastic variables in the Monte Carlo analysis.

RESPONSE

a. The following variables are allowed to vary stochastically in the Monte Carlo analysis:

1. Demand (load)
2. Natural Gas prices
3. Coal Prices
4. Power Prices
5. Construction Costs – implemented in the FOM variable
6. CO_2 emissions costs

b. These risk factors were defined to have a normal distribution with a 10% standard deviation.

c. The AURORA^{xmp} model software allows for only a many-to-one risk factor correlation in the Monte Carlo processing. So, rather than, for example, being able to specify a correlation between Natural Gas and Power Prices as well as Natural Gas and Coal prices, as the Table 1-4 implies, it was necessary to establish a base risk factor and then define a correlation between the base factor and the other risk variables. In this case, the demand risk factor was chosen as the base factor, and all other risk factors were defined as being correlated to it using the correlation factors defined in Table1-4.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-1, at Slide 79 to the 40th EEI Conference (November 2005) presentation, which shows Big Sandy 2 FGD as "Planned or Under Construction".

a. Please provide citation to applicable laws or regulations, known or expected in November 2005, that would have required an FGD to be "Planned or Under Construction" at the Big Sandy 2 unit.

b. Please list the contractors, if any, that had been employed to estimate the requirement, cost, or engineering of the FGD unit at this time, and note the role played by that contractor.

c. Please provide the estimated cost of the Big Sandy 2 FGD in 2005, and the source of that cost.

RESPONSE

a. Kentucky Power Company objects to this request as calling for legal analysis. Further the requested information is irrelevant to this proceeding and not reasonably calculated to lead to the production of admissible evidence. Without waving these objections, please see Page 4 of Attachment 1 to KPSC 1-26.

b. Parsons E&C was employed to assist AEP and KPCo in the development of the estimated costs.

c. The estimated cost (+/- 25% range of accuracy) for the WFGD, associated work and the landfill was $331,826,000 as developed by Parsons E&C, AEP, and KPCo.

WITNESS: Robert Walton and Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-1, at Page 100 of the 41st EEI Financial Conference (November 5-8, 2006) presentation, which shows Big Sandy 2 FGD as "Delayed".

a. Please confirm that the FGD project at Big Sandy 2 was suspended in 2006.

b. If so, please provide a detailed explanation as to why the FGD project was suspended at that time. If not, please provide a detailed explanation of the term "delayed" as used in this document.

c. Please provide the estimated cost of the Big Sandy 2 FGD in 2006, and the source of that cost.

RESPONSE

a. The FGD project at Big Sandy 2 was suspended in 2006.

b. Please see the Company's response to Sierra Club's First Set of Data Requests, Item No. 27(b) for an explanation of why the FGD project was delayed.

The terms "suspended" and "delayed" are used interchangeably and synonymously to indicate that the project remains planned for execution in the future. These terms should not be confused with the term "cancelled", where there is no longer an intent to pursue the project.

c. The estimated cost (+/- 15% range of accuracy) for the WFGD, associated work and the landfill was $402,869,602 as developed by Parsons E&C, AEP, and KPCo.

WITNESS: Ranie K Wohnhas and Robert Walton

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-1, at Page 99 of the 42nd EEI Financial Conference (November 4-7, 2007) presentation, which shows Big Sandy 2 FGD as "Projected [for completion in] 2014".

a. Please confirm that the FGD project was reinstated between 2006 and the end of 2007.

b. If so, please provide a detailed explanation as to why the FGD project was reinstated at that time. If not, please provide a detailed explanation as to why the term "delayed" is no longer used in the aforementioned paper.

c. Please provide the estimated cost of the Big Sandy 2 FGD in 2006, and the source of that cost.

RESPONSE

a. No, the project remained suspended/delayed between 2006 and the end of 2007.

b. The status of the project was shown in the report as "Projected 2014" in order to provide the investment community with additional information as to the planned in-service date.

c. Please see the Company's response to Sierra Club's Second Set of Data Requests, Item No. 8(c).

WITNESS: Ranie K. Wohnhas and Robert Walton

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-1, at Slide 26 of the SunTrust Investor Luncheon (June 16, 2011) presentation, which lists Big Sandy 2 under the heading "Retirements".

a. Please confirm that Big Sandy 2 was considered for retirement in mid-2011.

b. If so, please provide a detailed explanation as to why Big Sandy 2 was considered for retirement at this time. Please provide the date upon which the decision to retire Big Sandy 2 was made.

c. Please provide any spreadsheet analyses or workpapers, in digital format, with formulae intact, conducted by or for the Company, or copies of papers or analyses conducted by or for the Company, that indicated that Big Sandy 2 unit should be retired.

d. If Big Sandy 2 was not considered for retirement in mid-2011, please provide a detailed explanation as to why the Big Sandy 2 unit is listed under "Retirements" in this presentation.

e. Please provide the estimated cost of the Big Sandy 2 FGD in June 2011.

f. Please provide the name, title, and contact information for the individual or individuals responsible for deciding that Big Sandy 2 should be retired.

RESPONSE

a. Big Sandy Unit 2 was considered for retirement in mid-2011.

b. Big Sandy Unit 2 was considered for retirement at this time because the Company's preliminary analysis indicated that the option to repower Big Sandy Unit 1 would be the least cost alternative. The April press release indicated that this course was "a plan" and was not necessarily the final plan as the Company was in the process of completing a more detailed engineering analysis of the cost to repower Big Sandy Unit 1. There was no final decision to retire Big Sandy Unit 2.

c. Please refer to KIUC 1-28, pages 1 and 8 of 25 and Sierra Club 1-69 for the electronic version that was filed February 15, 2012.

d. Please see the response to b. above.

e. The estimated cost to install the DFGD on Big Sandy Unit 2 was the same in June 2011 as was filed in this application.

f. N/A. Please see the response to b. above.

WITNESS: Robert Walton and Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-1, at Slide 11 of the ISI Meeting Handout (October 6, 2011), which lists Big Sandy 2 under the heading "Retirements".

a. Please confirm that, as of October 6, 2011, the Company was portraying Big Sandy 2 as a reasonable retirement to investors. If this statement is incorrect, please provide a correct characterization of how Big Sandy 2 was portrayed to investors.

b. Please provide the estimated cost of the Big Sandy 2 FGD in October 2011.

RESPONSE

a. Although the Company was still reviewing all of the alternatives as of this date, Big Sandy Unit 2 was then being shown as a retirement.

b. The estimated cost of Big Sandy Unit 2 in October 2011 was the same as was filed in this application.

WITNESS: Ranie K. Wohnhas and Robert Walton

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-1, at Slide 22 of the Morgan Stanley Office Visit (November 17, 2011), which shows Big Sandy 2 as an expected retrofit.

a. Please confirm that the Big Sandy 2 FGD was considered a viable project in November 2011. If this statement is incorrect, please provide a correct characterization of how Big Sandy 2 was portrayed to investors.

b. Please confirm that the Big Sandy 2 unit was not under consideration for retirement in November 2011. If this statement is incorrect, please provide a correct characterization of how Big Sandy 2 was portrayed to investors.

c. Please provide a detailed explanation as to why the Big Sandy 2 unit was no longer considered for retirement as of November 2011. Please provide the date upon which the decision to reinstate the Big Sandy 2 FGD was made.

d. Please provide any spreadsheet analyses or workpapers, in digital format, with formulae intact, conducted by or for the Company, or copies of papers or analyses conducted by or for the Company, that indicated that Big Sandy 2 unit should be retrofit in November 2011.

e. Please provide the estimated cost of the Big Sandy 2 FGD in November 2011.

f. Please provide the name, title, and contact information for the individual or individuals responsible for deciding that Big Sandy 2 should be retrofit, rather than retired.

RESPONSE

a. In November 2011, installation of a DFGD on Big Sandy Unit 2 was the alternative that had been chosen by the Company.

b. In November 2011, based upon the Company's decision to install a DFGD on Big Sandy Unit 2, the unit was no longer considered for retirement.

c. A more detailed engineering analysis of the cost of repowering Big Sandy Unit 1 indicated that it was not the least cost alternative. As a result, the Company decided to install a DFGD on Big Sandy Unit 2. This decision was made in September 2011.

d. Please refer to the Company's response to Staff 1-48.

e. The estimated cost to install a DFGD on Big Sandy Unit 2 was the same in November 2011 as was filed in this application.

f. The decision to install a DFGD on Big Sandy Unit 2 was made by Greg G. Pauley, COO of Kentucky Power Company. The Board of Directors of AEP approved Mr. Pauley's decision.

WITNESS: Robert Walton and Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-1, at Slide 20 of the Goldman Sachs 6th Annual Clean Energy & Power Conference (December 9, 2011) lists Big Sandy 2 FGD as expected with a "High Cost" estimate of 525 $MM.

a. Please confirm that investors were informed, as of December 9, 2011, that the Big Sandy 2 FGD would cost, at the high end, $525 million. If this statement is incorrect, please provide a correct characterization of how Big Sandy 2 was portrayed to investors.

b. Please provide any analyses performed by or for the Company that found the cost of the Big Sandy 2 FGD would run $525 million in late 2011.

c. Please provide the estimated cost of the Big Sandy 2 FGD in December 2011.

d. Please provide the cost of the FGD unit as presented in this CPCN case.

e. Please provide an explanation for any discrepancies between (c) and (d), above.

RESPONSE

a. In reviewing Slide 20 of the Goldman Sachs 6th Annual Clean Energy & Power Conference (December 9, 2011), investors would have noted that the high end cost for the Big Sandy 2 FGD was stated to be $525M. This number resulted from a scrivener's error. The correct number, in accordance with our current estimated cost and the CPCN application, has been integrated into the most recent financial presentation to investors which occurred on February 10, 2012.

b. Please see the Company's response to a. above.

c. The estimated cost to install a DFGD on Big Sandy Unit 2 in December 2011 is the same as was filed in this application.

d. Please refer to the testimony of Lila Munsey, Exhibit LPM-1.

e. N/A.

WITNESS: Robert L Walton and Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Follow-up to response to Sierra Club initial data request 1-4.

a. Please confirm that the Company has performed no other analyses examining the need for and cost of necessary or potentially necessary capital additions to the Big Sandy plant beyond the CPCN Application at question here, the Parsons E&C dated December 30, 2004, and the Draft Special Waste Landfill Permit application for a FGD Disposal Facility as attached to Sierra Club initial data request 1-2 or available at Company's council.

b. Please provide any analyses performed by or for the Company since 2005 examining the need for and cost of the Big Sandy 2 FGD in searchable digital copy. If analyses are in the form of excel workbooks, please provide workbooks with formulae intact.

c. Please provide any analyses performed by or for the Company since 2005 examining the need for and cost of mitigating wastewater effluent from the Big Sandy 2 site in searchable digital copy. If analyses are in the form of excel workbooks, please provide workbooks with formulae intact.

d. Please provide any analyses performed by or for the Company since 2005 examining the need for and cost of upgrading the boiler at Big Sandy 2 to handle more diverse coal sources in searchable digital copy. If analyses are in the form of excel workbooks, please provide workbooks with formulae intact.

RESPONSE

a. The Company has performed no other analyses examining the need for and cost of necessary or potentially necessary capital additions to the Big Sandy plant beyond the CPCN Application at question here, the Parsons E&C dated December 30, 2004, the Draft Special Waste Landfill Permit application for a FGD Disposal Facility as attached to Sierra Club initial data request 1-2 or available at Company's counsel, and the attachments provided in the response to Sierra Club initial data request 1-4.

b. The available searchable copies of analyses performed by or for the Company since 2005 examining the need for and cost of the Big Sandy 2 FGD can be found in Sierra Club initial data request 1-4 in attachments 1, 2, 3, 4 and 7. Please refer to 'Sierra Club 1-4 Attachment 6' and 'Item No. 27(a), Attachment 1' in this response for the searchable version of those documents. Confidential Attachment 5 to Sierra Club 1-4 is not available to the Company in a searchable format.

c. Although no analyses have been performed to date, the Company recognizes the potential future need to mitigate wastewater effluent from the Big Sandy Unit 2 site. As a result, the Company has proactively attempted to quantify the cost of mitigation technology/systems by including budgetary place holders in the company's long range capital forecasts that are associated with current and potential EPA regulatory programs. High level conceptual cost estimates have been identified through the use of informal surveys of municipal water treatment costs and high-level conceptual estimates of potential volumes of water to be treated at Big Sandy Unit 2. Such budgetary cost estimates are expected to change and be refined as EPA regulatory programs are finalized.

d. Analyses performed by or for the Company since 2005 examining the need for and cost of upgrading the boiler at Big Sandy 2 to handle more diverse coal sources can be found in Attachment 1 and Attachment 2 to this Response. Confidential treatment is being sought for Attachments 1 and 2 through the accompanying Petition for Confidential Treatment.

WITNESS: John M McManus

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-15, Attachment 2:

a. Please indicate if dollars are in nominal or real, and dollar year if real.

b. Please indicate the expected tonnage to be obtained from each contract in each listed year.

c. Please indicate the annual average price of coal, in real $/MMBtu, delivered to Big Sandy 2, expected by the Company through the CPCN analysis period, or at least 2025, whichever is longer.

RESPONSE

a. The prices of coal shown in Sierra Club 1-15 Attachment 2 are in nominal dollars.

b. Please see page 2 of this response for the requested information.

c. The Company does not forecast the annual average price of coal in real $/MMBtu. For a forecast of the average annual price of coal in nominal $/MMBtu, please see Attachment A of the Company's response dated February 15, 2012, to Sierra Club 1-69. Confidential treatment was sought for the attachment in its entirety.

WITNESS: Ranie K. Wohnhas

Vendor	Contract Number	Delivery Start Date	Delivery End Date	Coal Source	Heat Content (BTU/lb)	Sulfur Content (lb SO2/MMBTU)	Year	Obligation (Tons)	Price Per Ton
Arch Coal Sales Company, Inc. (FOB Mine)	03-30-07-901	1/2/2007	12/31/2012	KY	12,300	1.80[1]	2007	120,000	$48.00
							2008	240,000	$48.75
							2009	240,000	$50.75
							2010	240,000	$52.75
							2011	360,000	$58.75
							2012	240,000	$77.50
Argus Energy, LLC (FOB Plant)	03-30-07-903	1/1/2007	12/31/2012	KY, WV	12,000	1.75	2007	240,000	$51.75
							2008	240,000	$52.75
							2009	203,200	$54.50
							2010	192,583	$56.00
							2011	120,000	$57.40
							2012	480,000	$82.65
Beech Fork Processing, Inc. (FOB Plant)	03-30-08-901	10/1/2008	12/31/2013	KY	12,000	1.60	2008	180,000	$82.00
							2009	450,000	$79.00
							2010	360,000	$74.00
							2011	360,000	$72.29
							2012	210,000	$72.29
							2013	120,000	$80.00
Cliffs Logan County Coal, LLC (FOB Mine)	03-30-08-900	5/1/2008	12/31/2012	WV	12,500	1.20	2008	240,000	$70.00
							2009	465,000	$70.00
							2010	360,000	$72.00
							2011	360,000	$72.00
							2012	360,000	$72.00
Rhino Energy, LLC (FOB Plant)	03-30-10-900	10/1/2010	12/31/2013	WV	12,000	1.60	2010	30,000	$73.00
							2011	480,000	$69.75
							2012	480,000	$75.50
							2013	480,000	$78.45
S. M. & J., Inc. (FOB Plant)	03-30-10-901	1/1/2011	12/31/2013	KY	12,000	1.60	2011	240,000	$78.15
							2012	240,000	$78.15
							2013	240,000	$78.15
Trinity Coal Marketing LLC[3] (FOB Mine)	03-30-07-905	1/1/2008	12/31/2012	KY, WV	12,500	1.60	2008	71,252	$47.00
							2009	193,264	$49.00
							2010	254,045	$50.50
							2011	320,000	$52.50
							2012	240,000	$54.50

1 - for 2008 the Arch contract could deliver up to 1.90 # SO2/MMBTU coal. All other years required 1.80 # SO2/MMBTU

2 - Price Reopener based on indices for 2012.

3 - Price under Trinity contract is FOB mine. Add $6.00/ton for truck delivery to plant and $9.50/ton FOB barge

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-17b and 1-17h. Direct Testimony of Ranie Wohnhas, page 14 line 22 to page 15 line 5 refers to the possibility that future increased EPA standards could "...cause operation of this unit not to be economically feasible in the future". With reference to the possibility of such future increased EPA standards response 1-17b states that the Company "...does not believe it is appropriate to assume an absence of any material risk of future environmental regulations."

a. Please confirm that these two statements indicate that the Company believes it is appropriate to assume there is a material risk of future environmental regulations that could cause operation of the Big Sandy Unit 2 not to be economically feasible in the future. If the Company cannot confirm this interpretation please explain why not.

b. If the Company believes it is appropriate to assume there is a material risk of future environmental regulations that could cause operation of the Big Sandy Unit 2 not to be economically feasible in the future, please explain why the Company did not analyze that risk per response 1-17h.

RESPONSE

a. The Company believes it is appropriate to assume there is risk of future environmental regulations that could cause operation of the Big Sandy Unit 2 not to be economically feasible in the future.

b. While the Company agrees it is appropriate to consider risk of future environmental regulations, it is difficult to quantify such risk from potential unknown requirements. However, the Company has proactively attempted to quantify such risk by including costs in analyses that are associated with current and potential EPA regulatory programs. In addition to the final CSAPR and MATS rules, analyses of Big Sandy Plant include potential cost implications related to the proposed 316(b) and CCR rules and the yet-to-be proposed Steam Electric Effluent Guidelines. Each of these programs could require installation of mitigation technology at Big Sandy Plant. In addition, the Company has for some time now included a carbon "tax" in its analyses as a proxy for some future regulation of greenhouse gas emissions. The timing of the applicability of such a proxy has changed as prospects for Green House Gas legislation have waned in the current US Congress.

WITNESS: Ranie K Wohnhas

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-17b.

a. Please provide all analyses prepared by or for the Company to support its position that Big Sandy Unit 2 could have a useful life of 70 years;

b. Please identify all coal units in the United States of which the Company is aware that are comparable to Big Sandy Unit 2 in terms of design, capacity, and capacity factor whose owner is projecting a useful life of 70 years' operating at that capacity factor;

c. Produce the most recent condition or performance assessment for Big Sandy Unit 1, Big Sandy Unit 2, or both units combined.

RESPONSE

a. Please see the Company's response to KIUC 2-4.

b. The Company does not compile such information for units it does not own.

c. Please see the Company's response to KPSC 1-39.

WITNESS: Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-17j. If the Company expects to recover the total amount of all revenue requirements associated with Big Sandy unit from ratepayers, including all stranded investment, why is it concerned about the number of years over which it recovers that amount? (We recognize that the net present value of the total amount the Company would ultimately collect from ratepayers would be less if it collected the revenue requirements and stranded investment over a shorter number of years rather than a longer number of years).

RESPONSE

If the Company were allowed recovery of all costs associated with installing a DFGD on Big Sandy Unit 2 including any future stranded investment, then the Company would not be as concerned about the number of years in which it recovers those costs.

WITNESS: Ranie K Wohnhas

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data requests 1-19c, Attachment 1.

a. Please define the purpose of the row labeled "#N/A", and detail the values found in this category of costs.

b. Please describe, in detail, the purpose or genesis of the $39.7 million cost in 2003. Is it expected that this cost will be repeated?

RESPONSE

a. During conversion to a new plant system (PowerPlant) some data before 2006 did not transfer the project number information and thus the row labeled "#N/A" contains items for which specific project information, or the identity of the generating unit or its environmental/non-environmental status cannot be determined through our current system.

b. Please see Attachment 1 of this response. Though not anticipated that these specific project costs would be repeated, it is dependant upon the circumstances at the plant.

WITNESS: Lila P Munsey

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_lc	2001	2002	2003	2004	2005	Grand Total
03010060	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			2,968,385			2,968,385
03010060 Total							2,968,385			2,968,385
030315549	106 Reversal	POTTER TRACT - APPROX. 8AC Old WO Number: 7315549	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31000	(1)					(1)
	Land Parcel	Land Parcel	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31000	1					1
	POTTER TRACT - APPROX. 8AC Old WO Number: 7315549	POTTER TRACT - APPROX. 8AC Old WO Number: 7315549	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31000	1					1
030315549 Total					1					1
030500033	Replace Mercury Filled Flow Meters on U2.	Replace Mercury Filled Flow Meters on U2.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	3,995					3,995
030500033 Total					3,995					3,995
030500039	Misc Power Plant Equipment	Misc Power Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	7,665					7,665
030500039 Total					7,665					7,665
030500056	Purchase and install PA stations on Unit 2	Purchase and install PA stations on Unit 2	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600		6,217				6,217
030500056 Total						6,217				6,217
030500070	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	2,211					2,211
030500070 Total					2,211					2,211
030500277	Upgrade the Unit 2 oil lighters with larger spray tips. Retire the original spray tips which were installed approximately six years ago.	Upgrade the Unit 2 oil lighters with larger spray tips. Retire the original spray tips which were installed approximately six years ago.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	22,026					22,026
030500277 Total					22,026					22,026
030500297	Purchase and install fligh sump pum for Unit 2 ash pit Pump removed was permanently installed in middle 70's Had been mobile prior to that. Removed pump to be retired.	Purchase and install fligh sump pum for Unit 2 ash pit Pump removed was permanently installed in middle 70's Had been mobile prior to that. Removed pump to be retired.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	32,564					32,564
030500297 Total					32,564					32,564
030500304	106 Reversal	Upgrade and replacement of sulfur converter electric boiler. holding tank. feed system and ventilation Also upgrade of power systems to handle new equip.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(24,719)					(24,719)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	24,719					24,719
	Upgrade and replacement of sulfur converter electric boiler. holding tank. feed system and ventilation Also upgrade of power systems to handle new equip.	Upgrade and replacement of sulfur converter electric boiler. holding tank. feed system and ventilation Also upgrade of power systems to handle new equip.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	24,719					24,719
030500304 Total					24,719					24,719
030500321	106 Reversal	Replace No 1 ash pit sump pump with new submersible pump	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(7,732)					(7,732)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	7,732					7,732
	Replace No 1 ash pit sump pump with new submersible pump	Replace No 1 ash pit sump pump with new submersible pump	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	7,732					7,732
030500321 Total					7,732					7,732
030500340	106 Reversal	(blank)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500	39,687					39,687
	Accessory Electric Equipment	Accessory Electric Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500	(39,687)					(39,687)
	(blank)	(blank)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500	(39,687)					(39,687)
030500340 Total					(39,687)					(39,687)
030500354	106 Reversal	Replace five (5) A/C units on Unit 2 maintenance building	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31100	(221)					(221)
	Replace five (5) A/C units on Unit 2 maintenance building	Replace five (5) A/C units on Unit 2 maintenance building	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31100	221					221
030500354 Total					-					-
030500357	106 Reversal	Purchase level detectors for Unit 2 silos from CAVCON . Ultrsonic transmitter and ultrasonic sensor	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(3,007)					(3,007)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	3,007					3,007
	Purchase level detectors for Unit 2 silos from CAVCON . Ultrsonic transmitter and ultrasonic sensor	Purchase level detectors for Unit 2 silos from CAVCON . Ultrsonic transmitter and ultrasonic sensor	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	3,007					3,007
030500357 Total					3,007					3,007
030500373	106 Reversal	Purchase of new pump. 3550 RPM, Model 3406 Size 2x3-11S to replace pump originally installed in 1969, cost as much to repair old pump than to purchase new	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(9,206)					(9,206)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No 2 : KEP : 7006	31200	9,206					9,206

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
	Purchase of new pump. 3550 RPM, Model 3406.Size 2x3-11S to replace pump originally installed in 1959, cost as much to repair old pump than to purchase new	Purchase of new pump. 3550 RPM, Model 3406.Size 2x3-11S to replace pump originally installed in 1959, cost as much to repair old pump than to purchase new	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	9,206					9,206
030500373 Total					9,206					9,206
030500384	106 Reversal	Purchase (3) pulverizer rollwheel assemblies (M & E #04-301500) for Cap Spares.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31220	(65,153)					(65,153)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	65,153					65,153
	Purchase (3) pulverizer rollwheel assemblies (M & E #04-301500) for Cap Spares.	Purchase (3) pulverizer rollwheel assemblies (M & E #04-301500) for Cap Spares.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31220	65,153					65,153
030500384 Total					65,153					65,153
030500386	Purchase 48" x 106' long 330 piw conveyor belt for #10E & #10W Conveyor Cap Spare M&E #03-885060	Purchase 48" x 106' long 330 piw conveyor belt for #10E & #10W Conveyor Cap Spare M&E #03-885060	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31220	3,131					3,131
030500386 Total					3,131					3,131
030500391	$18,000 of material receipted for in 2000 Remainder of labor and material incurred in 2001	$18,000 of material receipted for in 2000 Remainder of labor and material incurred in 2001	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	39700		47,604				47,604
030500391 Total						47,604				47,604
030500394	106 Reversal	Purchase one (1) oil storage and dispensing system and one oil filter cart for use by lab employees	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600	(13,554)					(13,554)
	Misc Power Plant Equipment	Misc Power Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600	13,554					13,554
	Purchase one (1) oil storage and dispensing system and one oil filter cart for use by lab employees	Purchase one (1) oil storage and dispensing system and one oil filter cart for use by lab employees	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600	13,554					13,554
030500394 Total					13,554					13,554
030500403	106 Reversal	Replace X & Y rollwheel assemblies in #26 Pulverizer.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(14,743)					(14,743)
	Replace X & Y rollwheel assemblies in #26 Pulverizer.	Replace X & Y rollwheel assemblies in #26 Pulverizer.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	14,743					14,743
030500403 Total					-					-
030500408	106 Reversal	Replace telescopic chute Modify to a round chute w/top 3 sectional level with 1/2" ceramic tile.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	(62,905)					(62,905)
	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	62,905					62,905
	Replace telescopic chute Modify to a round chute w/top 3 sectional level with 1/2" ceramic tile.	Replace telescopic chute Modify to a round chute w/top 3 sectional level with 1/2" ceramic tile.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	62,905					62,905
030500408 Total					62,905					62,905
030500412	106 Reversal	Replace 801 clinker grinder gearbox and drive motor with upgraded version	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(43,879)					(43,879)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	43,879					43,879
	Replace 801 clinker grinder gearbox and drive motor with upgraded version	Replace 801 clinker grinder gearbox and drive motor with upgraded version	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	43,879					43,879
030500412 Total					43,879					43,879
030500416	Purchase and install two (2 ea) flyash sampling probes on U2.	Purchase and install two (2 ea) flyash sampling probes on U2.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	4,554					4,554
030500416 Total					4,554					4,554
030500432	106 Reversal	Replace cation and anion resin and carbon in portable demineralizer	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	49,590					49,590
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(49,590)					(49,590)
	Replace cation and anion resin and carbon in portable demineralizer	Replace cation and anion resin and carbon in portable demineralizer	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(49,590)					(49,590)
030500432 Total					(49,590)					(49,590)
030500433	106 Reversal	Purchase three (3) tables and twenty-eight (28) chairs for Unit 2 conference room	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600	(4,371)					(4,371)
	Misc Power Plant Equipment	Misc Power Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600	4,371					4,371
	Purchase three (3) tables and twenty-eight (28) chairs for Unit 2 conference room	Purchase three (3) tables and twenty-eight (28) chairs for Unit 2 conference room	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600	4,371					4,371
030500433 Total					4,371					4,371

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Benefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
030500434	106 Reversal	Purchase one 17" automatic battery operated floor scrubber ST # Mc17000 QP L 170J Includes two (2) ea 12 volt batteries, one (1) 24 volt charger and one (1) pad holder.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	4,931					4,931
	Misc Power Plant Equipment	Misc Power Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	(4,931)					(4,931)
	Purchase one 17" automatic battery operated floor scrubber ST # Mc17000 QP L 170J Includes two (2) ea 12 volt batteries, one (1) 24 volt charger and one (1) pad holder.	Purchase one 17" automatic battery operated floor scrubber ST # Mc17000 QP L 170J Includes two (2) ea 12 volt batteries, one (1) 24 volt charger and one (1) pad holder.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	(4,931)					(4,931)
030500434 Total					(4,931)					(4,931)
030500450	106 Reversal	(blank)	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(7,902)					(7,902)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	7,902					7,902
	(blank)	(blank)	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	7,902					7,902
030500450 Total					7,902					7,902
030500454	106 Reversal	Purchase and install precipitator voltage controller Two boards will be removed and used as spares until all are replaced per Bart Parsons	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	(7,514)					(7,514)
	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	7,514					7,514
	Purchase and install precipitator voltage controller Two boards will be removed and used as spares until all are replaced per Bart Parsons	Purchase and install precipitator voltage controller Two boards will be removed and used as spares until all are replaced per Bart Parsons	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	7,514					7,514
030500454 Total					7,514					7,514
030500455	Purchase ammonia flow probe as capital spare part	Purchase ammonia flow probe as capital spare part	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	3,924					3,924
030500455 Total					3,924					3,924
030500456	106 Reversal	(blank)	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(61,573)					(61,573)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	61,573					61,573
	(blank)	(blank)	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	61,573					61,573
030500456 Total					61,573					61,573
030500465	106 Reversal	Pulverizer Seal Air Flow Meter	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(4,999)					(4,999)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	4,999					4,999
	Pulverizer Seal Air Flow Meter	Pulverizer Seal Air Flow Meter	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	4,999					4,999
030500465 Total					4,999					4,999
030500467	106 Reversal	Replae one (1) Ingersoll Rand 5980 impact wrench used to adjust pulverizer studs.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	(10,407)					(10,407)
	Misc Power Plant Equipment	Misc Power Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	10,407					10,407
	Replae one (1) Ingersoll Rand 5980 impact wrench used to adjust pulverizer studs.	Replae one (1) Ingersoll Rand 5980 impact wrench used to adjust pulverizer studs.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	10,407					10,407
030500467 Total					10,407					10,407
030500477	Structures and Improvements	Structures and Improvements	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31100		431				431
030500477 Total						431				431
030500479	106 Reversal	Cost of stator rewind for Big Sandy's FD fan motor, Unit 1. performed by CMS	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(2,935)					(2,935)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	26,300					26,300
	Cost of stator rewind for Big Sandy's FD fan motor, Unit 1. performed by CMS	Cost of stator rewind for Big Sandy's FD fan motor, Unit 1. performed by CMS	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	2,935					2,935
030500479 Total					26,300					26,300
030500497	(blank)	(blank)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500	38,891					38,891
030500497 Total					38,891					38,891
030500539	106 Reversal	Purchase one (1) cool mist Heat Killer, Jr fan for employees working in hot areas	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	(3,173)					(3,173)
	Misc Power Plant Equipment	Misc Power Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	3,173					3,173
	Purchase one (1) cool mist Heat Killer, Jr fan for employees working in hot areas	Purchase one (1) cool mist Heat Killer, Jr fan for employees working in hot areas	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	3,173					3,173
030500539 Total					3,173					3,173
030500577	Replace No 11 conveyor belt which was installed in 1990.	Replace No 11 conveyor belt which was installed in 1990.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	63,922					63,922
030500577 Total					63,922					63,922

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A									
Benefiting Loc	#N/A									
Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_lc	2001	2002	2003	2004	2005	Grand Total
030500597	106 Reversal	Rewind stator of air compressor, GE motor, s/n 5k828845L47, 82882 frame, 600 HP, 61780 RPM, AC 4160 volts 76 amps performed by Smith Services, Inc.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400	(27,544)					(27,544)
	Rewind stator of air compressor, GE motor, s/n 5k828845L47, 82882 frame, 600 HP, 61780 RPM, AC 4160 volts 76 amps performed by Smith Services, Inc.	Rewind stator of air compressor, GE motor, s/n 5k828845L47, 82882 frame, 600 HP, 61780 RPM, AC 4160 volts 76 amps performed by Smith Services, Inc.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400	27,544					27,544
	Turbogenerator Units	Turbogenerator Units	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400	27,544					27,544
030500597 Total					27,544					27,544
030500625	COST OF MJ ELECTRIC TO REPLACE STATOR REWIND IN CONDENSATE BOOSETER PUMP 1250 hp MOTOR	COST OF MJ ELECTRIC TO REPLACE STATOR REWIND IN CONDENSATE BOOSETER PUMP 1250 hp MOTOR	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	22,006					22,006
030500625 Total					22,006					22,006
030500627	MJElectric costs to rewind stator on bottom ash pump 350 HP motor	MJElectric costs to rewind stator on bottom ash pump 350 HP motor	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	5,952					5,952
030500627 Total					5,952					5,952
030734300	RECORD INSTALL & REMOVAL LABOR CAP SP U 1&2 TD207900 Old WO Number: 7734300	RECORD INSTALL & REMOVAL LABOR CAP SP U 1&2 TD207900 Old WO Number: 7734300	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	38,273	885				39,158
				31400	8,201	190				8,391
				31500	8,201	190				8,391
030734300 Total					54,676	1,264				55,940
030734444	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	582					582
030734444 Total					582					582
030734477	INSTALL PLANT AIR CROSSTIE DCOPERATED SHUT-OFF VALVE (Y2K) Old WO Number: 7734477	INSTALL PLANT AIR CROSSTIE DCOPERATED SHUT-OFF VALVE (Y2K) Old WO Number: 7734477	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	9,838					9,838
030734477 Total					9,838					9,838
03500033	106 Reversal	Replace Mercury Filled Flow Meters on U2.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(3,995)					(3,995)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	3,995					3,995
03500033 Total					-					-
03500056	106 Reversal	Purchase and install PA stations on Unit 2	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600		(6,217)				(6,217)
	Misc Power Plant Equipment	Misc Power Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600		6,217				6,217
03500056 Total						-				-
03500277	106 Reversal	Upgrade the Unit 2 oil lighters with larger spray tips Retire the original spray tips which were installed approximately six years ago.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(22,026)					(22,026)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	22,026					22,026
03500277 Total					-					-
03500297	106 Reversal	Purchase and install fligh sump pum for Unit 2 ash pit. Pump removed was permanently installed in middle 70's Had been mobile prior to that Removed pump to be retired.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(32,564)					(32,564)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	32,564					32,564
03500297 Total					-					-
03500350	Slag Blower - Complete	Slag Blower - Complete	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			37,509	(40)		37,469
03500350 Total							37,509	(40)		37,469
03500386	106 Reversal	Purchase 48" x 106' long 330 piw conveyor belt for #10E & #10W Conveyor I I Cap Spare M&E #03-885060	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31220	(3,131)					(3,131)
	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	3,131					3,131
03500386 Total					-					-
03500391	106 Reversal	$18,000 of material receipted for in 2000 Remainder of labor and material incurred in 2001	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	39700		(47,604)				(47,604)
	Communication Equipment	Communication Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	39700		47,604				47,604
03500391 Total						-				-
03500416	106 Reversal	Purchase and install two (2 ea) flyash sampling probes on U2.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(4,554)					(4,554)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	4,554					4,554
03500416 Total					-					-

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A									
Benefiting Loc	#N/A									
Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
03500455	106 Reversal	Purchase ammonia flow probe as capital spare part	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(3,924)					(3,924)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	3,924					3,924
03500455 Total					-					-
03500497	106 Reversal	(blank)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500	(38,891)					(38,891)
	Accessory Electric Equipment	Accessory Electric Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500	38,891					38,891
03500497 Total					-					-
03500526	106 Reversal	Repair 3-phase 4KV line overhead going to recirculating pond - coal truckL broke three poles.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500	(6,991)					(6,991)
	Accessory Electric Equipment	Accessory Electric Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500	6,991					6,991
	Repair 3-phase 4KV line overhead going to recirculating pond - coal truckL broke three poles.	Repair 3-phase 4KV line overhead going to recirculating pond - coal truckL broke three poles.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500	6,991					6,991
03500526 Total					6,991					6,991
03500531	106 Reversal	(blank)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	(32,191)					(32,191)
	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	1					1
	(blank)	(blank)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	32,191					32,191
03500531 Total					1					1
03500577	106 Reversal	Replace No 11 conveyor belt which was installed in 1990.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	(63,922)					(63,922)
	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	63,922					63,922
03500577 Total					-					-
03500589	106 Reversal	Construct new Big Sandy SCR Aux Station including the installation of a 138kV double lattice bent structure, (2) 138/13 8kV 25MVA transformers, (2) 138kV MOAB switches, relaying, grounding, stoning, fencing	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	35200			(233,653)			(233,653)
				35300			(845,658)			(845,658)
	Construct new Big Sandy SCR Aux Station including the installation of a 138kV double lattice bent structure, (2) 138/13 8kV 25MVA transformers, (2) 138kV MOAB switches, relaying, grounding, stoning, fencing	Construct new Big Sandy SCR Aux Station including the installation of a 138kV double lattice bent structure, (2) 138/13 8kV 25MVA transformers, (2) 138kV MOAB switches, relaying, grounding, stoning, fencing	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	35200			233,653			233,653
				35300			845,658			845,658
	Station Equipment	Station Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	35300			845,925			845,925
	Structures and Improvements	Structures and Improvements	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	35200			233,727			233,727
03500589 Total							1,079,651			1,079,651
03500612	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			10,219			10,219
03500612 Total							10,219			10,219
03500624	106 Reversal	BIG SANDY SCR PROJ INST (2) 138KV CIRCUIT BREAKERS AND RELAYING THIS W O ONLY INCLUDES THESE ITEMS WHICH WILL BE GENERATION ASSETS. THE STEEL, BUS WORK, STA. EXP , CONTROL HSE EXP , ETC WILL BE DESIGNED AND CONTR UNDER THE TRANSM W.O.#030500586.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600			5,316			5,316
	BIG SANDY SCR PROJ INST (2) 138KV CIRCUIT BREAKERS AND RELAYING THIS W O ONLY INCLUDES THESE ITEMS WHICH WILL BE GENERATION ASSETS. THE STEEL, BUS WORK, STA. EXP , CONTROL HSE EXP , ETC WILL BE DESIGNED AND CONTR UNDER THE TRANSM W.O.#030500586.	BIG SANDY SCR PROJ INST (2) 138KV CIRCUIT BREAKERS AND RELAYING THIS W O ONLY INCLUDES THESE ITEMS WHICH WILL BE GENERATION ASSETS THE STEEL BUS WORK, STA. EXP CONTROL HSE EXP ETC WILL BE DESIGNED AND CONTR UNDER THE TRANSM W.O.#030500586.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600			(5,316)			(5,316)
	Compressed Air System Complete	Compressed Air System Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600			(5,316)			(5,316)
			inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600			348,660			348,660
03500624 Total							343,344			343,344

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
03500625	106 Reversal	COST OF MJ ELECTRIC TO REPLACE STATOR REWIND IN CONDENSATE BOOSETER PUMP 1250 hp MOTOR	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(22,006)					(22,006)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	22,012					22,012
03500625 Total					6					6
03500627	106 Reversal	MJElectric costs to rewind stator on bottom ash pump 350 HP motor	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	(5,952)					(5,952)
	Boiler Plant Equipment	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200	5,952					5,952
03500627 Total					-					-
03500642	106 Reversal	RETUBE #5S HP HEATER RETUBE #5S HP HEATER RSO - RETUBE 5S HP HEATER RSO - RETUBE 5S HP HEATER APS - RETUBE 5S HP HEATER MMI - RETUBE 5S HP HEATER MMI - RETUBE 5S HP HEATER APS - RETUBE 5S HP HEATER	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(291,231)			(291,231)
	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			291,231			291,231
	RETUBE #5S HP HEATER RETUBE #5S HP HEATER RSO - RETUBE 5S HP HEATER RSO - RETUBE 5S HP HEATER APS - RETUBE 5S HP HEATER MMI - RETUBE 5S HP HEATER MMI - RETUBE 5S HP HEATER APS - RETUBE 5S HP HEATER	RETUBE #5S HP HEATER RETUBE #5S HP HEATER RSO - RETUBE 5S HP HEATER RSO - RETUBE 5S HP HEATER APS - RETUBE 5S HP HEATER MMI - RETUBE 5S HP HEATER MMI - RETUBE 5S HP HEATER APS - RETUBE 5S HP HEATER	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			291,231			291,231
03500642 Total							291,231			291,231
03500694	106 Reversal	MMI - REWIRE OUTLET BANKS OF P	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			(19,795)			(19,795)
	Accessory Electric Equipment	Accessory Electric Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			19,795			19,795
	MMI - REWIRE OUTLET BANKS OF P	MMI - REWIRE OUTLET BANKS OF P	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			19,795			19,795
03500694 Total							19,795			19,795
03500710	(R) UPGRADE CONTROLS ON U2 CI (I) UPGRADE CTRLS CWP MTR	(R) UPGRADE CONTROLS ON U2 CI (I) UPGRADE CTRLS CWP MTR	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			25,028			25,028
	106 Reversal	(R) UPGRADE CONTROLS ON U2 CI (I) UPGRADE CTRLS CWP MTR	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			(25,028)			(25,028)
	Control Installation - Each	Control Installation - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			25,028			25,028
03500710 Total							25,028			25,028
03500716	Accessory Electric Equipment	Accessory Electric Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			39,575			39,575
03500716 Total							39,575			39,575
03500722	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			9,329			9,329
				31400			6,360			6,360
03500722 Total							15,689			15,689
03500726	106 Reversal	Cover costs in 2002 for additional material for security purposes	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600				(471,393)		(471,393)
	Cover costs in 2002 for additional material for security purposes	Cover costs in 2002 for additional material for security purposes	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600				471,393		471,393
	Misc Power Plant Equipment	Misc Power Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600				471,393		471,393
03500726 Total								471,393		471,393
03500738	106 Reversal	(blank)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400		(5,745)				(5,745)
	Turbogenerator Units	Turbogenerator Units	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400		5,745				5,745
	(blank)	(blank)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400		5,745				5,745
03500738 Total						5,745				5,745
03500742	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			30,190			30,190
03500742 Total							30,190			30,190
03500745	106 Reversal	SO3 Testing for Big Sandy Unit 2 SCR	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(46,426)			(46,426)
	Flue Gas Desulfurization System	Flue Gas Desulfurization System	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			46,426			46,426
	SO3 Testing for Big Sandy Unit 2 SCR	SO3 Testing for Big Sandy Unit 2 SCR	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			46,426			46,426
03500745 Total							46,426			46,426
03500752	106 Reversal	REPLACE OUTDATED AND OBSOLETE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			(49,733)			(49,733)
	REPLACE OUTDATED AND OBSOLETE	REPLACE OUTDATED AND OBSOLETE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			49,733			49,733

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
03500752 Total							-			-
03500758	Boiler Plant Equipment	Boiler Plant Equipment	Inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			114,816			114,816
03500758 Total							114,816			114,816
03500768	# 22 PULVERIZER / CAPITAL REMO # 22 PULVERIZER / CAPITAL INST	# 22 PULVERIZER / CAPITAL REMO # 22 PULVERIZER / CAPITAL INST	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200		19,589	(29,648)			(10,059)
	106 Reversal	# 22 PULVERIZER / CAPITAL REMO # 22 PULVERIZER / CAPITAL INST	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200		(19,589)	29,648			10,059
	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(29,648)			(29,648)
			inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200		49,038				49,038
03500768 Total						49,038	(29,648)			19,390
03734300	106 Reversal	RECORD INSTALL & REMOVAL LABOR CAP SP U 1&2 TD207900 Old WO Number: 7734300	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200	(38,273)	(2,027)				(40,300)
				31400	(8,201)	(434)				(8,636)
				31500	(8,201)	(434)				(8,636)
	RECORD INSTALL & REMOVAL LABOR CAP SP U 1&2 TD207900 Old WO Number: 7734300	RECORD INSTALL & REMOVAL LABOR CAP SP U 1&2 TD207900 Old WO Number: 7734300	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200		1,142				1,142
				31400		245				245
				31500		245				245
03734300 Total					(54,676)	(1,264)				(55,940)
03734477	106 Reversal	INSTALL PLANT AIR CROSSTIE DCOPERATED SHUT-OFF VALVE (Y2K) Old WO Number: 7734477	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	(9,838)					(9,838)
	Misc Power Plant Equipment	Misc Power Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600	9,838					9,838
03734477 Total					-					-
40006573	Pulverizer Drum, Cylinder or Rotating Assembly, Attrition Type Pulverizer - Each	Pulverizer Drum, Cylinder or Rotating Assembly, Attrition Type Pulverizer - Each	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			43,188			43,188
	Pulverizer Grinding Table, without Wear Rings or Segments - Complete	Pulverizer Grinding Table, without Wear Rings or Segments - Complete	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			12,755			12,755
40006573 Total							55,943			55,943
40012546	Slag Blower - Complete	Slag Blower - Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			90,627			90,627
40012546 Total							90,627			90,627
40020979	Motor Stator Windings - Complete for motors 50 HP or greater.	Motor Stator Windings - Complete for motors 50 HP or greater.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			7,550			7,550
40020979 Total							7,550			7,550
40026789	106 Reversal	INSTALL NEW FIELDVUE ON ATTEMP REMOVE POSITIONER ON ATTEMPER	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(5,080)			(5,080)
	INSTALL NEW FIELDVUE ON ATTEMP REMOVE POSITIONER ON ATTEMPER	INSTALL NEW FIELDVUE ON ATTEMP REMOVE POSITIONER ON ATTEMPER	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			5,080			5,080
	Valve, Six (6) inch nominal pipe size or larger.	Valve, Six (6) inch nominal pipe size or larger.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			5,080			5,080
40026789 Total							5,080			5,080
40043414	106 Reversal	RSO (R) FLYASH REO TIME AND ENGINEERING	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(221,112)			(221,112)
	Flyash or Bottom Ash Removal, Vacuum Steam Jet or Hydraulic, System - Complete	Flyash or Bottom Ash Removal, Vacuum Steam Jet or Hydraulic, System - Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			221,113			221,113
	RSO (R) FLYASH REO TIME AND ENGINEERING	RSO (R) FLYASH REO TIME AND ENGINEERING	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			221,112			221,112
40043414 Total							221,113			221,113
40046159	Sampling System - Complete	Sampling System - Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			39,118			39,118
40046159 Total							39,118			39,118
40058577	Pumps, Fans and Blowers with 50 HP or greater drive, irrespective of use.	Pumps, Fans and Blowers with 50 HP or greater drive, irrespective of use.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600			14,650			14,650
40058577 Total							14,650			14,650
40063131	Burner, including Pulverized Coal, Cyclone, Gas and Oil - Complete Burner	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200				452		452
	Burner, including Pulverized Coal, Cyclone, Gas and Oil - Complete Burner System	Boiler Plant Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			353,089			353,089
40063131 Total							353,089	452		353,541
40069482	106 Reversal	PLT SUPPORT (I) MCC 2-TCLB PLT SUPPORT (R) RETIRE MCC- 2-	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(28,499)			(28,499)
	Motor Control Center - Each - 480 volt and over, and 300 kVA and over	Motor Control Center - Each - 480 volt and over, and 300 kVA and over	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			28,499			28,499

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_lc	2001	2002	2003	2004	2005	Grand Total
	PLT SUPPORT (I) MCC 2-TCLB PLT SUPPORT (R) RETIRE MCC- 2-	PLT SUPPORT (I) MCC 2-TCLB PLT SUPPORT (R) RETIRE MCC- 2-	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			28,499			28,499
40069462 Total							28,499			28,499
40069493	Circuit Breakers or Switches - Each	Circuit Breakers or Switches - Each	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31500			76,137			76,137
40069493 Total							76,137			76,137
40069494	F.D., P.A., I.D. and Gas Recirculation Fan Inlet Vanes - Complete Set	F.D., P.A., I.D. and Gas Recirculation Fan Inlet Vanes - Complete Set	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			44,034			44,034
		F.D., P.A., I.D., Gas Recirc & SCR Booster Fan Inlet Vanes - Complete Set	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200				797		797
40069494 Total							44,034	797		44,831
40069495	F.D., P.A., I.D. and Gas Recirculation Fan Inlet Vanes - Complete Set	F.D., P.A., I.D. and Gas Recirculation Fan Inlet Vanes - Complete Set	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			16,146			16,146
40069495 Total							16,146			16,146
40069501	106 Reversal	PLT (I) CIRC PP EXT PLT (R) CIRC PP EXT REO ENG (I)	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31500				(1,358)		(1,358)
	PLT (I) CIRC PP EXT PLT (R) CIRC PP EXT REO ENG (I)	PLT (I) CIRC PP EXT PLT (R) CIRC PP EXT REO ENG (I)	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31500				1,358		1,358
	Relay - Each	Relay - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500				1,358		1,358
40069501 Total								1,358		1,358
40070162	106 Reversal	CMF CHARGES - REMOVE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(30,258)			(30,258)
	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			30,258			30,258
	CMF CHARGES - REMOVE	CMF CHARGES - REMOVE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			30,258			30,258
40070162 Total							30,258			30,258
40071243	106 Reversal	CMS REMOVE GENERATOR REWEDGE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			(357,219)			(357,219)
	CMS REMOVE GENERATOR REWEDGE	CMS REMOVE GENERATOR REWEDGE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			357,219			357,219
	Generator Stator Wedges - Complete Set	Generator Stator Wedges - Complete Set	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400		-	367,393			367,393
40071243 Total						-	367,393			367,393
40071450	106 Reversal	CMS REWIND CRANE HOLDING COIL	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			(940,413)			(940,413)
	CMS REWIND CRANE HOLDING COIL	CMS REWIND CRANE HOLDING COIL	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			940,413			940,413
	Rotor - Each	Rotor - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400		(618,257)	919,511			301,253
40071450 Total						(618,257)	919,511			301,253
40071952	106 Reversal	PLT SUPPORT REO ENG RSO (R) JTS RSO (I) JTS PAINT (I) GHEENS	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			(171,260)			(171,260)
	PLT SUPPORT REO ENG RSO (R) JTS RSO (I) JTS PAINT (I) GHEENS	PLT SUPPORT REO ENG RSO (R) JTS RSO (I) JTS PAINT (I) GHEENS	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			171,260			171,260
	Turbogenerator	*Turbogenerator*	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			166,962			166,962
40071952 Total							166,962			166,962
40072171	106 Reversal	OIL- R- SAFE	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			(5,402)			(5,402)
	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			5,402			5,402
	OIL- R- SAFE	OIL- R- SAFE	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			5,402			5,402
40072171 Total							5,402			5,402
40072204	106 Reversal	PLT - (R) SUPPORT REO ENG RSO (R) COOL RSO (I) COOL	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			(17,227)			(17,227)
	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			17,227			17,227
	PLT - (R) SUPPORT REO ENG RSO (R) COOL RSO (I) COOL	PLT - (R) SUPPORT REO ENG RSO (R) COOL RSO (I) COOL	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			17,227			17,227
40072204 Total							17,227			17,227
40072256	106 Reversal	EHC-R-SAFE	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			(4,970)			(4,970)
	EHC-R-SAFE	EHC-R-SAFE	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			4,970			4,970
	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			4,970			4,970
40072256 Total							4,970			4,970
40072266	106 Reversal	PLT (I) ICE PLT (I) MAINT PLT (R) ICE PLT (R) MECH	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(17,101)			(17,101)
	PLT (I) ICE PLT (I) MAINT PLT (R) ICE PLT (R) MECH	PLT (I) ICE PLT (I) MAINT PLT (R) ICE PLT (R) MECH	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			17,101			17,101
	Valve. Six (6) inch nominal pipe size or larger.	Valve. Six (6) inch nominal pipe size or larger.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			17,101			17,101
40072266 Total							17,101			17,101
40072275	106 Reversal	PLT (I) BRO ICE REO ENG (I)	inactive - Big Sandy Generating Plant Unit No 2 : KEP : 7006	31200			(21,577)			(21,577)

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			21,577			21,577
	PLT (I) BRO ICE REO ENG (I)	PLT (I) BRO ICE REO ENG (I)	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			21,577			21,577
40072275 Total							21,577			21,577
40072703	106 Reversal	PLT (I) INFORMATION (PI) SYST	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(45,254)			(45,254)
	Computer. Multiplexing System. Digital Logic System - Complete System	Computer. Multiplexing System. Digital Logic System - Complete System	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			45,254			45,254
	PLT (I) INFORMATION (PI) SYST	PLT (I) INFORMATION (PI) SYST	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			45,254			45,254
40072703 Total							45,254			45,254
40073481	FPT Lubricating System Main Shaft Pump Assembly - Each	FPT Lubricating System Main Shaft Pump Assembly - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			10,715			10,715
40073481 Total							10,715			10,715
40074442	106 Reversal	OIL ANALYZER CSI 5200 (I) BOILER DATABASE SOFTWARE (I) ACOUSTIC LEAK LOCATERS (1)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200 31600			(39,812) (23,198)			(39,812) (23,198)
	Chemical Laboratory Equipment - Each - Reference accounting instruction for definition.	Chemical Laboratory Equipment - Each - Reference accounting instruction for definition.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31600			23,198			23,198
	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			15,312			15,312
	OIL ANALYZER CSI 5200 (I) BOILER DATABASE SOFTWARE (I) ACOUSTIC LEAK LOCATERS (1)	OIL ANALYZER CSI 5200 (I) BOILER DATABASE SOFTWARE (I) ACOUSTIC LEAK LOCATERS (1)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200 31600			39,812 23,198			39,812 23,198
40074442 Total							38,511			38,511
40076113	106 Reversal	INSTALL A NEW BELT ON 13 NORTH REMOVE THE OLD BELT FROM 13N C	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(104,260)			(104,260)
	Conveyor Belting - Continuous Loop	Conveyor Belting - Continuous Loop	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			104,260			104,260
	INSTALL A NEW BELT ON 13 NORTH REMOVE THE OLD BELT FROM 13N C	INSTALL A NEW BELT ON 13 NORTH REMOVE THE OLD BELT FROM 13N C	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			104,260			104,260
40076113 Total							104,260			104,260
40077572	Valve. Six (6) inch nominal pipe size or larger.	Valve. Six (6) inch nominal pipe size or larger.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			116,276			116,276
40077572 Total							116,276			116,276
40078330	106 Reversal	PLT CAP DMP RSO ICE (R) RSO MECH (R) RSO ICE (I) RSO MECH (I)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(161,180)			(161,180)
	Duct System Damper - Each	Duct System Damper - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			161,180			161,180
	PLT CAP DMP RSO ICE (R) RSO MECH (R) RSO ICE (I) RSO MECH (I)	PLT CAP DMP RSO ICE (R) RSO MECH (R) RSO ICE (I) RSO MECH (I)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			161,180			161,180
40078330 Total							161,180			161,180
40079242	Motor - Each - 50 HP or Over	Motor - Each - 50 HP or Over	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			12,281			12,281
40079242 Total							12,281			12,281
40079521	106 Reversal	SCF (I) REPLACE ROLLWHEELS IN	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(206,999)			(206,999)
	Pulverizer Drum, Cylinder or Rotating Assembly for Attrition Type Pulverizer - Each	Chutes. Coal Yard Stand Pipe. Spouts. Ducts. or Transport Pipes - Complete System	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			704			704
	Pulverizer Drum, Cylinder or Rotating Assembly. Attrition Type Pulverizer - Each	Pulverizer Drum, Cylinder or Rotating Assembly. Attrition Type Pulverizer - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			206,999			206,999
	SCF (I) REPLACE ROLLWHEELS IN	SCF (I) REPLACE ROLLWHEELS IN	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			206,999			206,999
40079521 Total							207,702			207,702
40079977	106 Reversal	ENGINEERING	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(91)			(91)
	Coal Structure. Fuel Handling. not in Structures Accounts - Complete	Coal Structure. Fuel Handling. not in Structures Accounts - Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			91			91
	ENGINEERING	ENGINEERING	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			91			91
40079977 Total							91			91
40080130	(I) INSTALL THE WEST RIVER MAK (R) REPLACE THE WEST RIVER MAK	(I) INSTALL THE WEST RIVER MAK (R) REPLACE THE WEST RIVER MAK	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			222,992	209		223,201
	106 Reversal	(I) INSTALL THE WEST RIVER MAK (R) REPLACE THE WEST RIVER MAK	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			(222,992)	(209)		(223,201)
	Pumps. Fans and Blowers with 50 HP or greater drive. irrespective of use	Pumps. Fans and Blowers with 50 HP or greater drive. irrespective of use	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			223,201			223,201

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
40080130 Total							223,201	-		223,201
40080137	Valve, Six (6) inch nominal pipe size or larger.	Valve, Six (6) inch nominal pipe size or larger.	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			9,759			9,759
40080137 Total							9,759			9,759
40080859	106 Reversal	PLT (I) GEN STAT	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			(27,683)			(27,683)
	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			27,683			27,683
	PLT (I) GEN STAT	PLT (I) GEN STAT	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			27,683			27,683
40080859 Total							27,683			27,683
40080913	106 Reversal	INSTALL NEW GEARBOX AND DRIVE REPLACE THE GEARBOX AND DRIVE	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(28,538)			(28,538)
	Gear Box, Adjustable Speed Drive - Each - Reference accounting instructions for definition.	Gear Box, Adjustable Speed Drive - Each - Reference accounting instructions for definition.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			28,538			28,538
	INSTALL NEW GEARBOX AND DRIVE REPLACE THE GEARBOX AND DRIVE	INSTALL NEW GEARBOX AND DRIVE REPLACE THE GEARBOX AND DRIVE	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			28,538			28,538
40080913 Total							28,538			28,538
40082201	Elevator, Vertical, Bucket, Skip Hoist - Each Complete	Elevator, Vertical, Bucket, Skip Hoist - Each Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			10,271			10,271
40082201 Total							10,271			10,271
40082202	Elevator, Vertical, Bucket, Skip Hoist - Each Complete	Elevator, Vertical, Bucket, Skip Hoist - Each Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			16,174			16,174
40082202 Total							16,174			16,174
40083259	106 Reversal	MMI REMOVAL - COAL CONTROLS-ST	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(211,946)			(211,946)
	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			211,946			211,946
	MMI REMOVAL - COAL CONTROLS-ST	MMI REMOVAL - COAL CONTROLS-ST	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			211,946			211,946
40083259 Total							211,946			211,946
40087133	106 Reversal	PLT (I) GEN STAT PLT (R) GEN STAT PLT (I) XSS AIR PLT (R) XSS AIR PLT (I) MT VIB PLT (R) MT VIB PLT (I) SILO WEIGHT PLT (R) SILO WEIGHT PLT (I) CLG STM PLT (R) CLG STM	inactive - Big Sandy Generating Plant Unit No 2 : KEP : 7006	31200 31400			(1,150) (24,122)			(1,150) (24,122)
	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200 31400			1,150 24,122			1,150 24,122
	PLT (I) GEN STAT PLT (R) GEN STAT PLT (I) XSS AIR PLT (R) XSS AIR PLT (I) MT VIB PLT (R) MT VIB PLT (I) SILO WEIGHT PLT (R) SILO WEIGHT PLT (I) CLG STM PLT (R) CLG STM	PLT (I) GEN STAT PLT (R) GEN STAT PLT (I) XSS AIR PLT (R) XSS AIR PLT (I) MT VIB PLT (R) MT VIB PLT (I) SILO WEIGHT PLT (R) SILO WEIGHT PLT (I) CLG STM PLT (R) CLG STM	inactive - Big Sandy Generating Plant Unit No 2 : KEP : 7006	31200 31400			1,150 24,122			1,150 24,122
40087133 Total							25,273			25,273
40087141	106 Reversal	ACOUSTIC HORNS FOR U2 ECON 200	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(75,353)			(75,353)
	ACOUSTIC HORNS FOR U2 ECON 200	ACOUSTIC HORNS FOR U2 ECON 200	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			75,353			75,353
	Slag Blower - Complete	Slag Blower - Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			75,353			75,353
40087141 Total							75,353			75,353
40087147	106 Reversal	DIGITAL FAULT RECORDER U2	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			(12,946)			(12,946)
	DIGITAL FAULT RECORDER U2	DIGITAL FAULT RECORDER U2	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			12,946			12,946
	Oscillograph with Relay - Each	Oscillograph with Relay - Each	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31500			12,946			12,946
40087147 Total							12,946			12,946
40107216	106 Reversal	REO TIME - ALTEREX COOLER	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			(38,869)	1,173		(37,696)
	Generator Coolers - Complete per Generator	Generator Coolers - Complete per Generator	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			37,696			37,696
	REO TIME - ALTEREX COOLER	REO TIME - ALTEREX COOLER	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			38,869	(1,173)		37,696
40107216 Total							37,696	-		37,696
40108862	Elevator, Vertical, Bucket, Skip Hoist - Each Complete	Elevator, Vertical, Bucket, Skip Hoist - Each Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			14,990			14,990
40108862 Total							14,990			14,990
40109423	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			27,478			27,478
40109423 Total							27,478			27,478
40110489	106 Reversal	INSTALL NEW BELT REMOVETHE BELT	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(27,646)			(27,646)
	Elevator, Vertical, Bucket, Skip Hoist - Each Complete	Elevator, Vertical, Bucket, Skip Hoist - Each Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200		-	27,646			27,646

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_lc	2001	2002	2003	2004	2005	Grand Total
	INSTALL NEW BELT REMOVETHE BELT	INSTALL NEW BELT REMOVETHE BELT	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			27,646			27,646
40110489 Total						-	27,646			27,646
40111052	106 Reversal	PLANT ELECTRICAL INSTALL D&B INSTALL CHUTES ABOVE SILOS D&B REMOVE CHUTES ABOVE SILOS SAFEWAY SCAFFOLD FOR REMOVAL	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(77,914)			(77,914)
	Gates,Chutes,Downtakes,Spreaders,Raw Coal Pipes or Hoppers - Complete Per Boiler	Gates,Chutes,Downtakes,Spreaders,Raw Coal Pipes or Hoppers - Complete Per Boiler	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			77,914			77,914
	PLANT ELECTRICAL INSTALL D&B INSTALL CHUTES ABOVE SILOS D&B REMOVE CHUTES ABOVE SILOS SAFEWAY SCAFFOLD FOR REMOVAL	PLANT ELECTRICAL INSTALL D&B INSTALL CHUTES ABOVE SILOS D&B REMOVE CHUTES ABOVE SILOS SAFEWAY SCAFFOLD FOR REMOVAL	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			77,914			77,914
40111052 Total							77,914			77,914
40111261	106 Reversal	MMI (I) UPGRADE (12) BURNERS MMI (R) UPGRADE (12) BURNERS	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(279,400)			(279,400)
	Burner, including Pulverized Coal, Cyclone, Gas and Oil - Complete Burner	Burner, including Pulverized Coal, Cyclone, Gas and Oil - Complete Burner	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			279,400			279,400
	MMI (I) UPGRADE (12) BURNERS MMI (R) UPGRADE (12) BURNERS	MMI (I) UPGRADE (12) BURNERS MMI (R) UPGRADE (12) BURNERS	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			279,400			279,400
40111261 Total							279,400			279,400
40117847	106 Reversal	SCF (I) SAFE REPLACE SCISSORS SCF (R) SAFE REPLACE SCISSORS INS (I) MMI REPLACE SCISSORS E	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(52,228)	1,463		(50,765)
	Expansion Joints - Each	Expansion Joints - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			50,765			50,765
	SCF (I) SAFE REPLACE SCISSORS SCF (R) SAFE REPLACE SCISSORS INS (I) MMI REPLACE SCISSORS E	SCF (I) SAFE REPLACE SCISSORS SCF (R) SAFE REPLACE SCISSORS INS (I) MMI REPLACE SCISSORS E	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			52,228	(1,463)		50,765
40117847 Total							50,765	-		50,765
40118878	106 Reversal	ACOUSTIC HORNS FOR RH U2 (FO	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(34,259)	(15)		(34,274)
	ACOUSTIC HORNS FOR RH U2 (FO	ACOUSTIC HORNS FOR RH U2 (FO	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			34,259	15		34,274
	Slag Blower - Complete	Slag Blower - Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			34,274			34,274
40118878 Total							34,274	-		34,274
40126823	106 Reversal	INSTALL STORAGE BUILDING AT SE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100				(5,907)		(5,907)
	INSTALL STORAGE BUILDING AT SE	INSTALL STORAGE BUILDING AT SE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100				5,907		5,907
	Structure (Complete with or without Stack or Chimney)	Structure (Complete with or without Stack or Chimney)	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100				5,907		5,907
40126823 Total								5,907		5,907
40130019	Condensing & Cooling Water System	Condensing & Cooling Water System	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			63,890			63,890
40130019 Total							63,890			63,890
40130157	106 Reversal	ELECON I NITRO ELECON R NITRO	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(198,136)			(198,136)
	Burner, including Pulverized Coal, Cyclone, Gas and Oil - Complete Burner	Burner, including Pulverized Coal, Cyclone, Gas and Oil - Complete Burner	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			198,136			198,136
	ELECON I NITRO ELECON R NITRO	ELECON I NITRO ELECON R NITRO	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			198,136			198,136
40130157 Total							198,136			198,136
40130230	106 Reversal	INSTALL 4 NOX PROBES ON U2	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(61,601)			(61,601)
	Burner Lighter, Oil or Gas - Each	Burner Lighter, Oil or Gas - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			61,601			61,601
	INSTALL 4 NOX PROBES ON U2	INSTALL 4 NOX PROBES ON U2	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			61,601			61,601
40130230 Total							61,601			61,601
40131711	Compressed Air System Complete	Compressed Air System Complete	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31600			60,740			60,740
40131711 Total							60,740			60,740
40134375	Pulverizer Drum, Cylinder or Rotating Assembly, Attrition Type Pulverizer - Each	Pulverizer Drum, Cylinder or Rotating Assembly, Attrition Type Pulverizer - Each	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			27,889			27,889
40134375 Total							27,889			27,889
40134813	Circulating Water Pump Impeller - Each	Circulating Water Pump Impeller - Each	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			21,454			21,454
40134813 Total							21,454			21,454
40134819	Circulating Water Pump Impeller - Each	Circulating Water Pump Impeller - Each	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31400			8,742			8,742
40134819 Total							8,742			8,742
40139991	106 Reversal	PLANT INSTALL #11B FEEDER BELT INSTALL LEWIS GOETZ #11B FEED REMOVE LEWIS GOETZ #11B FEEDE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(6,436)			(6,436)

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
	Conveyor Belting - Continuous Loop	Conveyor Belting - Continuous Loop	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			6,436			6,436
	PLANT INSTALL #11B FEEDER BELT INSTALL LEWIS GOETZ #11B FEED REMOVE LEWIS GOETZ #11B FEEDE	PLANT INSTALL #11B FEEDER BELT INSTALL LEWIS GOETZ #11B FEED REMOVE LEWIS GOETZ #11B FEEDE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			6,436			6,436
40139991 Total							6,436			6,436
40144832	Conveyor, Elevator, or Bottom Ash Pipeline - Complete System	Conveyor, Elevator, or Bottom Ash Pipeline - Complete System	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200				105,455		105,455
40144832 Total								105,455		105,455
40145580	106 Reversal	PLANTU1 INSTALL LIGHTING TRANS PLT U1 REMOVE LIGHTING TRANSF MJ ELECTRIC INST STATOR U1 LIG MJ ELECTRIC REMOVE STATOR U1 L	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			(1,896)			(1,896)
	PLANTU1 INSTALL LIGHTING TRANS PLT U1 REMOVE LIGHTING TRANSF MJ ELECTRIC INST STATOR U1 LIG MJ ELECTRIC REMOVE STATOR U1 L	PLANTU1 INSTALL LIGHTING TRANS PLT U1 REMOVE LIGHTING TRANSF MJ ELECTRIC INST STATOR U1 LIG MJ ELECTRIC REMOVE STATOR U1 L	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			1,896			1,896
	Transformers, All Plant Transformers excluding GSU's which are in account 35300 - Each	Transformers, All Plant Transformers excluding GSU's which are in account 35300 - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			1,896			1,896
40145580 Total							1,896			1,896
40145730	106 Reversal	RSO I GATES RSO R GATE ELECON I NITRO ELECON R NITRO	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200				(126,449)		(126,449)
	Raw Coal Pipes,Gates,Chutes Downtakes,Spreaders,or Hoppers - Complete Per Boiler	Raw Coal Pipes,Gates,Chutes Downtakes,Spreaders,or Hoppers - Complete Per Boiler	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200				126,449		126,449
	RSO I GATES RSO R GATE ELECON I NITRO ELECON R NITRO	RSO I GATES RSO R GATE ELECON I NITRO ELECON R NITRO	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200				126,449		126,449
40145730 Total								126,449		126,449
40148308	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200				14,210		14,210
40148308 Total								14,210		14,210
40148337	106 Reversal	CMS-HOWDEN BOOSTER FAN	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(1,240)			(1,240)
	CMS-HOWDEN BOOSTER FAN	CMS-HOWDEN BOOSTER FAN	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			1,240			1,240
	Pumps, Fans and Blowers with 50 HP or greater drive, irrespective of use.	Pumps, Fans and Blowers with 50 HP or greater drive, irrespective of use.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			1,240			1,240
40148337 Total							1,240			1,240
40162285	106 Reversal	PPV I VALVE SET	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(86,044)			(86,044)
	PPV I VALVE SET	PPV I VALVE SET	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			86,044			86,044
	Valve, Safety regardless of size costing over $ 10,000.	Valve, Safety regardless of size costing over $ 10,000.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			86,044			86,044
40162285 Total							86,044			86,044
40164598	106 Reversal	PLT SUPPORT RSO I PENT RSO R PENT	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(25,464)			(25,464)
	Expansion Joints - Each	Expansion Joints - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			25,464			25,464
	PLT SUPPORT RSO I PENT RSO R PENT	PLT SUPPORT RSO I PENT RSO R PENT	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			25,464			25,464
40164598 Total							25,464			25,464
40164630	106 Reversal	BS U2 SCR STARTUP	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(417,955)			(417,955)
	BS U2 SCR STARTUP	BS U2 SCR STARTUP	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			417,955			417,955
	Selective Catalytic Reduction System	Selective Catalytic Reduction System	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			417,955			417,955
40164630 Total							417,955			417,955
40176567	106 Reversal	ECON BLH (I) INSTALL SILO WEIG	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(31,262)			(31,262)
	Control Installation - Each	Control Installation - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			31,030			31,030
	ECON BLH (I) INSTALL SILO WEIG	ECON BLH (I) INSTALL SILO WEIG	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			31,262			31,262
40176567 Total							31,030			31,030
40178432	106 Reversal	INTSALL IR CONTACTOR CONTROLS REMOVE IR CONTACTOR CONTROLS	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(25,612)			(25,612)
	Control Installation - Each	Control Installation - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			25,612			25,612
	INTSALL IR CONTACTOR CONTROLS REMOVE IR CONTACTOR CONTROLS	INTSALL IR CONTACTOR CONTROLS REMOVE IR CONTACTOR CONTROLS	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			25,612			25,612
40178432 Total							25,612			25,612
40180815	106 Reversal	GSU #2-INSTALL LOW SIDE BUSHIN GSU #2-REMOVE LOW SIDE BUSHING	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	35300				(22,783)		(22,783)

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
	GSU #2-INSTALL LOW SIDE BUSHIN GSU #2-REMOVE LOW SIDE BUSHING	GSU #2-INSTALL LOW SIDE BUSHIN GSU #2-REMOVE LOW SIDE BUSHING	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	35300				22,783		22,783
	Station Equipment	Station Equipment	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	35300				22,783		22,783
40180815 Total								22,783		22,783
40186617	106 Reversal	INSTALL NEW PUMP REMOVE PUMP	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			(54,797)			(54,797)
	INSTALL NEW PUMP REMOVE PUMP	INSTALL NEW PUMP REMOVE PUMP	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			54,797			54,797
	Pumps, Fans and Blowers with 50 HP or greater drive, irrespective of use.	Pumps, Fans and Blowers with 50 HP or greater drive, irrespective of use.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31400			54,797			54,797
40186617 Total							54,797			54,797
40199935	106 Reversal	PLT WELD	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(23,076)			(23,076)
	Control Installation - Each	Control Installation - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			23,076			23,076
	PLT WELD	PLT WELD	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			23,076			23,076
40199935 Total							23,076			23,076
40204076	106 Reversal	PLT I CONDUCTIVITY METERS ON PLT R CONDUCTIVITY METERS ON U	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(6,632)			(6,632)
	Instruments - Each - Reference accounting instructions for definition	Instruments - Each - Reference accounting instructions for definition	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			6,632			6,632
	PLT I CONDUCTIVITY METERS ON PLT R CONDUCTIVITY METERS ON U	PLT I CONDUCTIVITY METERS ON PLT R CONDUCTIVITY METERS ON U	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			6,632			6,632
40204076 Total							6,632			6,632
40207364	106 Reversal	PLANT INSTALL U2 FD INLET DAMP PLT REMOVE U2 FD INLET DAMPER REO U2 FD INLET DAMPER LINKAGE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(5,024)			(5,024)
	F D , P A , I D, and Gas Recirculation Fan Inlet Vanes - Complete Set	F D , P A , I D, and Gas Recirculation Fan Inlet Vanes - Complete Set	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			5,024			5,024
	PLANT INSTALL U2 FD INLET DAMP PLT REMOVE U2 FD INLET DAMPER REO U2 FD INLET DAMPER LINKAGE	PLANT INSTALL U2 FD INLET DAMP PLT REMOVE U2 FD INLET DAMPER REO U2 FD INLET DAMPER LINKAGE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			5,024			5,024
40207364 Total							5,024			5,024
40214522	106 Reversal	DIGITAL DOCUMENT SYSTEM	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	39100				(18,065)		(18,065)
	DIGITAL DOCUMENT SYSTEM	DIGITAL DOCUMENT SYSTEM	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	39100				18,065		18,065
	Office Equipment either Electrical or Machanical costing over $1,000	Office Equipment either Electrical or Machanical costing over $1,000	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	39100				18,065		18,065
40214522 Total								18,065		18,065
40218862	106 Reversal	INSTALL AIR HEATER/SOOTBLOWERS INSTALL AIR HEATER/SOOTBLOWERS	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			(2,093,847)			(2,093,847)
	Gas Conditioning System Air Heater - Complete per Bank	Gas Conditioning System Air Heater - Complete per Bank	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			2,093,847			2,093,847
	INSTALL AIR HEATER/SOOTBLOWERS INSTALL AIR HEATER/SOOTBLOWERS	INSTALL AIR HEATER/SOOTBLOWERS INSTALL AIR HEATER/SOOTBLOWERS	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7006	31200			2,093,847			2,093,847
40218862 Total							2,093,847			2,093,847
40218878	106 Reversal	INSTALL AIR HORNS FOR SCR PROJ	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(367,827)			(367,827)
	FGDS Air Cannons - Each	FGDS Air Cannons - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			367,827			367,827
	INSTALL AIR HORNS FOR SCR PROJ	INSTALL AIR HORNS FOR SCR PROJ	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			367,827			367,827
40218878 Total							367,827			367,827
40219259	106 Reversal	INSTALL PARKING LOT TO BENEFIT	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			(220,324)			(220,324)
	INSTALL PARKING LOT TO BENEFIT	INSTALL PARKING LOT TO BENEFIT	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			220,324			220,324
	Road, Walk, Parking Lot etc.	Road, Walk, Parking Lot etc.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			220,324			220,324
40219259 Total							220,324			220,324
40219309	106 Reversal	INSTALL NEW GUARDHOUSE AT BSP	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			(313,802)			(313,802)
	INSTALL NEW GUARDHOUSE AT BSP	INSTALL NEW GUARDHOUSE AT BSP	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			313,802			313,802
	Structures and Improvements	Structures and Improvements	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			313,802			313,802
40219309 Total							313,802			313,802
40219396	106 Reversal	INSTALL ID BOOSTER FANS FOR SC	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(10,093,324)			(10,093,324)
	INSTALL ID BOOSTER FANS FOR SC	INSTALL ID BOOSTER FANS FOR SC	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			10,093,324			10,093,324
	Pumps, Fans and Blowers with 50 HP or greater drive, irrespective of use.	Pumps, Fans and Blowers with 50 HP or greater drive, irrespective of use.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			10,093,324			10,093,324
40219396 Total							10,093,324			10,093,324

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
40219406	106 Reversal	INSTALL SWITCHGEAR BLDG & ASSO	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			(5,669,966)			(5,669,966)
	INSTALL SWITCHGEAR BLDG & ASSO	INSTALL SWITCHGEAR BLDG & ASSO	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			5,669,966			5,669,966
	Structures and Improvements	Structures and Improvements	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			5,669,966			5,669,966
40219406 Total							5,669,966			5,669,966
40219436	106 Reversal	INSTALL ECONOMIZER PROPORTIONI REPLACE ECONOMIZER PROPORTIONI	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7005	31200			(2,132,481)			(2,132,481)
	Duct System Damper - Each	Duct System Damper - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			2,132,481			2,132,481
	INSTALL ECONOMIZER PROPORTIONI REPLACE ECONOMIZER PROPORTIONI	INSTALL ECONOMIZER PROPORTIONI REPLACE ECONOMIZER PROPORTIONI	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7005	31200			2,132,481			2,132,481
40219436 Total							2,132,481			2,132,481
40220978	106 Reversal	FABRICATE EXTERNAL STORAGE MEC INSTALL EXTERNAL MATERIAL MANA	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	39300				(39,481)		(39,481)
	FABRICATE EXTERNAL STORAGE MEC INSTALL EXTERNAL MATERIAL MANA	FABRICATE EXTERNAL STORAGE MEC INSTALL EXTERNAL MATERIAL MANA	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	39300				39,481		39,481
	Shelving, Bins, Racks, Lockers	Shelving, Bins, Racks, Lockers	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	39300				39,481		39,481
40220978 Total								39,481		39,481
40223511	106 Reversal	SCR CATALYST BIG SANDY UNIT 2	Big Sandy SCR Catalyst Layer 1 : KEP : 7300SCR	31200			(3,259,048)			(3,259,048)
	Catalyst	Catalyst	Big Sandy SCR Catalyst Layer 1 : KEP : 7300SCR	31200			3,259,048			3,259,048
	SCR CATALYST BIG SANDY UNIT 2	SCR CATALYST BIG SANDY UNIT 2	Big Sandy SCR Catalyst Layer 1 : KEP : 7300SCR	31200			3,259,048			3,259,048
40223511 Total							3,259,048			3,259,048
40235925	106 Reversal	CMS: TRAVEL TO PLANT / REPAIR	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(3,031)			(3,031)
	CMS: TRAVEL TO PLANT / REPAIR	CMS: TRAVEL TO PLANT / REPAIR	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			3,031			3,031
	Coupling Device - Each	Coupling Device - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			3,031			3,031
40235925 Total							3,031			3,031
40237104	Motor - Each - 50 HP or Over	Motor - Each - 50 HP or Over	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200				3,928		3,928
40237104 Total								3,928		3,928
40243357	106 Reversal	INSTALL UREA SOLUTION PUMP REMOVE UREA SOLUTION PUMP	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(29,255)			(29,255)
	INSTALL UREA SOLUTION PUMP REMOVE UREA SOLUTION PUMP	INSTALL UREA SOLUTION PUMP REMOVE UREA SOLUTION PUMP	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			29,255			29,255
	Pumps, Fans and Blowers with 50 HP or greater drive, irrespective of use.	Pumps, Fans and Blowers with 50 HP or greater drive, irrespective of use.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			29,255			29,255
40243357 Total							29,255			29,255
40243400	106 Reversal	PURCHASE NEW BFP COUPLING AS C	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(65,210)			(65,210)
	Coupling - Rotating Equipment - EachE	Coupling - Rotating Equipment - EachE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			65,210			65,210
	PURCHASE NEW BFP COUPLING AS C	PURCHASE NEW BFP COUPLING AS C	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			65,210			65,210
40243400 Total							65,210			65,210
40246781	106 Reversal	LABOR-INSTALL U1 17 TON A/C LABOR-REMOVE U1 17 TON A/C- VALLEY AIR COND CONTRACTOR U1	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			(55,805)	85		(55,720)
	Air Conditioning System, Complete at One (1) Location, Floor or Elevation	Air Conditioning System, Complete at One (1) Location, Floor or Elevation	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			55,720			55,720
	LABOR-INSTALL U1 17 TON A/C LABOR-REMOVE U1 17 TON A/C- VALLEY AIR COND CONTRACTOR U1	LABOR-INSTALL U1 17 TON A/C LABOR-REMOVE U1 17 TON A/C- VALLEY AIR COND CONTRACTOR U1	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31100			55,805	(85)		55,720
40246781 Total							55,720	-		55,720
40254293	106 Reversal	INSTALL NEW BELT REMOVE OLD BELT	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(18,124)			(18,124)
	Conveyor Belting - Continuous Loop	Conveyor Belting - Continuous Loop	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			18,124			18,124
	INSTALL NEW BELT REMOVE OLD BELT	INSTALL NEW BELT REMOVE OLD BELT	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			18,124			18,124
40254293 Total							18,124			18,124
40257261	106 Reversal	U2 ICE -INSTALL-13 NORTH CONVE U2 ICE REMOVE-13 NORTH CONVEYO	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			(16,699)			(16,699)
	Circuit Breakers or Switches - Each	Circuit Breakers or Switches - Each	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			16,699			16,699

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A
Benefiting Loc	#N/A

Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
	U2 ICE -INSTALL-13 NORTH CONVE U2 ICE REMOVE-13 NORTH CONVEYO	U2 ICE -INSTALL-13 NORTH CONVE U2 ICE REMOVE-13 NORTH CONVEYO	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500			16,699			16,699
40257261 Total							16,699			16,699
40285158	106 Reversal	INSTALL NEW BELT REMOVE THE MANLIFT BELT	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200				(5,817)		(5,817)
	Conveyor Belting - Continuous Loop	Conveyor Belting - Continuous Loop	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200				5,817		5,817
	INSTALL NEW BELT REMOVE THE MANLIFT BELT	INSTALL NEW BELT REMOVE THE MANLIFT BELT	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200				5,817		5,817
40285158 Total								5,817		5,817
40291126	CHEMITHON SERVICE	CHEMITHON SERVICE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			8,009			8,009
40291126 Total							8,009			8,009
40293638	106 Reversal	INSTALL NEW GEARBOX REMOVE OLD AIR HEATER GEARBOX	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(22,679)			(22,679)
	Gear Box, Adjustable Speed Drive - Each - Reference accounting instructions for definition.	Gear Box, Adjustable Speed Drive - Each - Reference accounting instructions for definition.	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			22,679			22,679
	INSTALL NEW GEARBOX REMOVE OLD AIR HEATER GEARBOX	INSTALL NEW GEARBOX REMOVE OLD AIR HEATER GEARBOX	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			22,679			22,679
40293638 Total							22,679			22,679
40307659	106 Reversal	PLT- SUPPORT(I) REO ENGR RSO (I) SEAL SKIRT- INSTALL NE RSO (R) SEAL SKIRT- MOBILIZE & RSO (R) SEAL SKIRT- CUT,REMOVE RSO (I) SEAL SKIRT- WELD NEW S RSO (I) SEAL SKIRT- DE-MOBILIZ INS (I) MMI REPLACE THE SEAL S INS (R) MMI REPLACE THE SEAL S SCF (I) SAFE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200				(375,552)		(375,552)
	Ash Hopper Seal Skirt - Complete	Ash Hopper Seal Skirt - Complete	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200				375,552		375,552
	PLT- SUPPORT(I) REO ENGR RSO (I) SEAL SKIRT- INSTALL NE RSO (R) SEAL SKIRT- MOBILIZE & RSO (R) SEAL SKIRT- CUT,REMOVE RSO (I) SEAL SKIRT- WELD NEW S RSO (I) SEAL SKIRT- DE-MOBILIZ INS (I) MMI REPLACE THE SEAL S INS (R) MMI REPLACE THE SEAL S SCF (I) SAFE	PLT- SUPPORT(I) REO ENGR RSO (I) SEAL SKIRT- INSTALL NE RSO (R) SEAL SKIRT- MOBILIZE & RSO (R) SEAL SKIRT- CUT,REMOVE RSO (I) SEAL SKIRT- WELD NEW S RSO (I) SEAL SKIRT- DE-MOBILIZ INS (I) MMI REPLACE THE SEAL S INS (R) MMI REPLACE THE SEAL S SCF (I) SAFE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200				375,552		375,552
40307659 Total								375,552		375,552
ARO	ARO Big Sandy U1 Asbestos	ARO Big Sandy U1 Asbestos	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31700					227,176	227,176
	ARO Big Sandy U2 Asbestos	ARO Big Sandy U2 Asbestos	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31700					241,227	241,227
ARO Total									468,403	468,403
T0036285	106 Reversal	ENGINEERING - INSTALL - 3 NEW HV BUSHINGS RETIRE - 3 HV BUSHINGS CORRECTIVE TASK ASSOCIATED WIT	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500				(4,170)		(4,170)
	Accessory Electric Equipment	Accessory Electric Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500				4,170		4,170
	ENGINEERING - INSTALL - 3 NEW HV BUSHINGS RETIRE - 3 HV BUSHINGS CORRECTIVE TASK ASSOCIATED WIT	ENGINEERING - INSTALL - 3 NEW HV BUSHINGS RETIRE - 3 HV BUSHINGS CORRECTIVE TASK ASSOCIATED WIT	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31500				4,170		4,170
T0036285 Total								4,170		4,170
W0007814	106 Reversal	SCR CATALYST BIG SANDY UNIT 2	Big Sandy SCR Catalyst Layer 2 : KEP : 7300SCR2	31200			(2,897,646)			(2,897,646)
	Catalyst	Catalyst	Big Sandy SCR Catalyst Layer 2 : KEP : 7300SCR2	31200			3,259,049			3,259,049
	SCR CATALYST BIG SANDY UNIT 2	SCR CATALYST BIG SANDY UNIT 2	Big Sandy SCR Catalyst Layer 2 : KEP : 7300SCR2	31200			2,897,646			2,897,646
W0007814 Total							3,259,049			3,259,049
W0007815	106 Reversal	SCR CATALYST BIG SANDY UNIT 2	Big Sandy SCR Catalyst Layer 3 : KEP : 7300SCR3	31200			(1,448,823)			(1,448,823)
	Catalyst	Catalyst	Big Sandy SCR Catalyst Layer 3 : KEP : 7300SCR3	31200			1,629,524			1,629,524
	SCR CATALYST BIG SANDY UNIT 2	SCR CATALYST BIG SANDY UNIT 2	Big Sandy SCR Catalyst Layer 3 : KEP : 7300SCR3	31200			1,448,823			1,448,823
W0007815 Total							1,629,524			1,629,524
W0008910	106 Reversal	Repl #22 Pulverizer rollwheel - REF: 03500768 ❒ WORK ORDER OPENED FOR STORES USE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			63,137			63,137
	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(63,137)			(63,137)

Big Sandy Unit 2 Capital Actuals
Post-Allocated, Includes AFUDC
Non-Environmental Projects
Unidentified Projects/ Bnefitting Location

Project	#N/A									
Benefiting Loc	#N/A									
Sum of activity_cost					Year					
work_order_number	long_description	long_description2	long_description3	utility_account_ic	2001	2002	2003	2004	2005	Grand Total
	Repl #22 Pulverizer rollwheel - REF: 03500768 [WORK ORDER OPENED FOR STORES USE	Repl #22 Pulverizer rollwheel - REF: 03500768] WORK ORDER OPENED FOR STORES USE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(63,137)			(63,137)
W0008910 Total							(63,137)			(63,137)
W0008911	106 Reversal	BS 0 Install Bypass Chutes - REF 40065701 ı WORK ORDER OPENED FOR STORES USE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			10,593			10,593
	Boiler Plant Equipment	Boiler Plant Equipment	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(10,593)			(10,593)
	BS 0 Install Bypass Chutes - REF 40065701 ı WORK ORDER OPENED FOR STORES USE	BS 0 Install Bypass Chutes - REF 40065701 ı WORK ORDER OPENED FOR STORES USE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(10,593)			(10,593)
W0008911 Total							(10,593)			(10,593)
X1162840	106 Reversal	116284 LR-001 BIG SANDY U2 STE 116284 L1-001 BIG SANDY U2 STE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			(10,025)			(10,025)
	116284 LR-001 BIG SANDY U2 STE 116284 L1-001 BIG SANDY U2 STE	116284 LR-001 BIG SANDY U2 STE 116284 L1-001 BIG SANDY U2 STE	Big Sandy Generating Plant Unit Nos 1&2 : KEP : 7300	31200			10,025			10,025
	Selective Catalytic Reduction System	Selective Catalytic Reduction System	inactive - Big Sandy Generating Plant Unit No.2 : KEP : 7005	31200			10,025			10,025
X1162840 Total							10,025			10,025
Grand Total					510,995	(502,231)	39,704,247	1,195,776	468,403	41,377,189

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data requests 1-31, Attachment 1.

a. Please provide a detailed explanation for the discrepancy between the Phase IIb cost estimates for the AM U1-U3 FGDs and ML U1-U2 FGDs and the actual final cost.

b. Please confirm that for the top four most expensive recovered projects listed in this table, the actual cost exceeded the Phase IIb cost by 18%, 20%, 7%, and 30%, respectively.

c. See Direct Testimony of Walton page 19, lines 12-14. Please describe how the percentage differences between the Phase IIb estimates and actual costs shown in Sierra Club initial data request 1-31 are consistent with the statement that "our confidence is further bolstered when we look at our past record of accuracy."

RESPONSE

a. The differentials between the Phase IIb cost estimates and the actual final costs are as follows:

AM U1-U3

When the Phase IIb estimates were established in May, 2006, the projected in-service date for the AM U3 FGD was January 1, 2008 and the U2 & U3 FGD's were planned to be in service on or about January 1, 2009. Subsequent to the establishment of these estimates, the project in-service dates were deferred due to Army Corps of Engineers permitting issues (Unit 2 to 1Q 2010 and Unit 1 to 1Q 2011) and to address overall economic and environmental compliance conditions and to optimize unit generation. Unit 3 was deferred to 1Q2009, Unit 2 to 1Q 2010 and Unit 1 to 1Q 2011. Approximately $131 M of the total $286 M difference is directly attributable to labor, equipment and material escalation associated with the deferrals. Approximately $31 M of the difference was a result of unanticipated structural reinforcement work on the U1 and U2 precipitators in order to withstand new operating conditions associated with the FGD's. The remaining $124 M difference is attributable to under estimating the level of effort required on equipment common to all three units. Discounting the schedule driven cost, the final cost exceeds the

Phase IIb estimate by 14.5%, well within the 20% contingency factor applied to the Big Sandy 2 project estimate.

There is no similar monetary risk on schedule or precipitator reinforcement work at Big Sandy 2 as the schedule is established and the precipitator will be retired, not reinforced.

ML U1-U2

Two significant and unforeseen events occurred subsequent to the establishment of the Phase IIb estimate. First, the primary civil/foundation contractor, Ragnar Benson, Inc., declared bankruptcy while working on the project and ceased all work activity. This affected foundation completion, delayed critical path work, compressed the overall project schedule, increased site peak manpower requirements, and created significant site logistics issues. To maintain schedule and, to the extent possible, mitigate impacts on other contractors, AEP was required to complete the remaining scope of work abandoned under Ragnar Benson's firm price contract utilizing on-site contractors at an increased cost to the project. Secondly, the site experienced an unfortunate fatal stack fire which had a significant impact on the execution of the project. The project experienced a loss of progress and a sixty (60) day schedule impact, necessitating re-sequencing of work activities against a significant schedule compression necessitating labor overtime premium costs. These two incidents represent approximately $62 M of the $167 M delta. Being essentially identical units to Amos 1&2, this project incurred the same added costs for precipitator reinforcement, $31 M. The remaining $74 M difference is attributable to an under estimation of the level of effort required for the electrical work, the waste water treatment facility and the boiler modifications. Discounting the bankruptcy and the stack fire, the final costs would have been within 12% of the Phase IIb estimate, again well within the 20% contingency factor applied to the Big Sandy 2 project estimate.

There is no similar monetary risk on precipitator reinforcement work at Big Sandy 2 as the precipitator will be retired, not reinforced.

b. Ignoring the circumstances outlined above on the Amos and Mitchell projects, then the stated percentages are correct, in ascending project cost order.

c. The statement was based upon our most recent experience on a combined FGD and SCR project, Conesville 4, and on our most recent stand-alone FGD project, Cardinal 3, both of which were performed with a final cost approximately 6% less than the Phase IIb estimate.

WITNESS: Robert L Walton

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data requests 1-32c-d, 8 and 9.

a. Please provide the Company's most recent estimate of achievable potential for cost-effective reductions from energy efficiency in its service territory based upon the tests listed in response 32c-d. If the Company has not prepared, or commissioned, such an estimate, please explain why not.

b. Is it the Company's position that its current programs are capturing all achievable potential for cost-effective reductions from energy efficiency in its service territory? If yes, please provide the analyses supporting that position. If no, please explain why the Company is not capturing that full achievable potential.

RESPONSE

a. A single market potential study has not been commissioned for Kentucky Power Company. Detailed evaluation reports are completed for each DSM program and have been utilized to review the program cost effectiveness and program process including evaluation of market conditions and/or market potential. The Company completed evaluation of 7 DSM programs in 2011 and is currently evaluating the 5 other programs out of the total 12 programs currently included in the company's DSM portfolio. The Company has also purchased demographic data specific to the residential customer class which will further assist with planning the residential DSM programs.

b. No. The Company does not believe it has exhausted all cost-effective energy efficiency opportunities. Kentucky Power has operated energy efficiency programs continuously since 1996, and the Company recently expanded the DSM programs for both residential and commercial customers. In addition, the Company is testing a pilot load management program based on two-way cellular technology for customer home energy management and utility demand control of hvac and water heating equipment. Kentucky Power, in coordination with its collaborative and regulators has developed a portfolio of programs designed to help ratepayers use energy efficiently while balancing the impact on rates.

WITNESS: Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data requests 1-33 and 1-34 and Direct Testimony of Scott Weaver page 7, lines 3 to 21.

a. Please reconcile response 33 that the Company would compare its chosen plan to other potential plans with respect to these objectives with response 34 stating the Company did not perform this assessment for the alternatives considered.

b. Please provide the most recent analysis in which the Company compared its chosen plan to other potential plans using any or all of those metrics.

RESPONSE

a. & b. As stated in response to Sierra Club 1-33, KPCo does not use a quantitative metric to measure these "other objectives" of its resource plan. Rather, it compares its chosen plan to other potential plans with respect to these objectives. Also, as stated in Sierra Club 1-34, Exhibits SCW-4A through 4E may provide a measure of "optimum asset mix" and "affordability," and Exhibit SCW-5, Figure 5-1 provides a measure of "adaptability to risk" and, to a lesser extent, "planning flexibility."

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data requests 1-37, and the testimony of Scott Weaver, page 16 and Exhibit SCW-1.

a. Please provide the inflation rate the Company assumed in its projections

b. Please provide the rationale for the inflation rate the Company assumed in its projections

c. Please provide the discount rate the Company used in its analyses

d. Please provide the rationale for the discount rate the Company used in its projections

RESPONSE

a. See the response to Sierra Club 2-1.

b. The inflation rates found in the response to Sierra Club 2-1 are a forecast of general inflation rates developed by AEP's Economic Forecasting group based on information provided by Moody's Analytics and EIA.

c. See the response to Sierra Club 2-1.

d. This (nominal) discount rate is assumed to be the weighted average cost of capital.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data requests 1-42, Direct Testimony of Scott Weaver page 20, and Table 1-1 of Exhibit SCW-1 page 4.

a. Please provide the price or rate assumptions by major rate class that the Company used as inputs to its load forecast, including the units.

b. Please provide the rationale for the price or rate assumptions by major rate class that the Company used as inputs to its load forecast.

RESPONSE

a.& b. Please see the response to KIUC 2-30 part a.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data requests 1-43 and the Direct Testimony of Scott Weaver page 20 and Table 1-1 of Exhibit SCW-1, page 4.

a. Is it the Company's position that there is no material probability that the Kentucky General Assembly will pass clean energy legislation, such as the Clean Energy Opportunity Act (HB 167), between 2012 and 2040?

b. If yes, please explain the basis for the Company's position.

c. If no, please explain why the Company did not include this possibility in its sensitivity analyses?

d. Is it the Company's position that there is no material probability that U.S. Congress will pass legislation between 2012 and 2040 requiring specific quantities of retail electric energy requirements to be met from renewable sources of energy and/or energy efficiency?

e. If yes, please explain the basis for the Company's position.

f. If no, please explain why the Company did not include this possibility in its sensitivity analyses?

RESPONSE

a. The Company has not estimated, and hence does not have a position, on the probability that the Kentucky General Assembly will pass clean energy legislation, such as HB 167, or any other introduced bill between 2012 and 2040.

b. N/A

c. In 2009 KPCo sought to recover its costs under a proposed wind renewable energy purchase agreement. Following opposition by KIUC and the Attorney General, the Commission denied the application. More generally, the Company believes that renewable energy purchases are not substitutable for, particularly, capacity planning purposes. Specifically, given that the PJM RTO recognizes only 13% of the nameplate MW-capacity of wind generating sources for capacity planning purposes, these resources would not represent an effective "sensitivity" option for, particularly, the substitution of capacity (and energy) associated with all or even a portion of the 1,087 MW Big Sandy station.

Further, while as indicated on Table 1-2 of Exhibit SCW-1, KPCo is projected to achieve 41 MW of demand response (DR) resource by 2016, and at least 60 MW by 2020, such amounts would likely to serve as an adjunct to KPCo's resource portfolio, rather than to offer a major contribution. As with peaking resources, DR would not contribute much in the way of *energy* contribution. Likewise, that same Table 1-2 of Exhibit SCW-1 also indicates as much as nearly 100 GWh of (annual) energy efficiency contribution being projected for the Company by 2016. However that level also represents a small (< 2%) percentage of KPCo's overall internal load estimate for that year and, hence, would also not represent an effective "sensitivity" option for the substitution of the Big Sandy station.

d. The Company has not estimated, and hence does not have a position, on the probability that the U.S. Congress will pass legislation between 2012 and 2040 requiring specific quantities of retail electric energy requirements to be met from renewable sources of energy and/or energy efficiency.

e. N/A

f. In addition to the response in part c., although the Company has not estimated or taken a position around the prospect of federal clean energy legislation around renewables and/or energy efficiency, the unit disposition analyses performed for this filing has recognized the future prospect of a federally-legislated carbon tax which would likewise seek to achieve the comparable goal of reduced greenhouse gas emissions.

WITNESS: Scott C Weaver and Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-49, Attachment 1 (entitled "Big Sandy 2 Major Non-Environmental Related Capital Costs") and the Attachment to the Company's response to Sierra Club initial data request 1-19d (entitled "Big Sandy Unit 2 Capital Forecast Post-Allocated, Excludes AFUDC, Non-Environmental Projects.").

a. Please confirm that the sum of values in Attachment 1 to the Company's response to Sierra Club initial data request 1-49 between the years 2012 and 2019 is approximately $75 million.

b. Please confirm that the sum of values in the Attachment to the Company's response to Sierra Club initial data request 1-19d between the years 2012 and 2019 is approximately $43 million.

c. Please explain the discrepancies between these two tables.

d. Please indicate which set of forecast capital expenditures the Company uses for planning purposes. Please indicate which set of forecast capital expenditures the Company has used for this CPCN application.

RESPONSE

a. Yes, the referenced sum is approximately $75 million.

b. Yes, the referenced sum is approximately $43 million.

c. There are a few reasons for the difference between the figures. Data Request 1-49 asked for "Kentucky Power" cost data which was interpreted as Kentucky Power Generation costs. This includes projects that are classified in the Company's budget system associated with Big Sandy Unit 1, Big Sandy Unit 2, and Big Sandy Unit "0" (or general plant type projects). Data Request 1-19d asked specifically for Big Sandy Unit 2 costs. This response was prepared using a filter in the budget system which only returned projects that were designated as Big Sandy Unit 2. In addition, the projects listed in Data Request 1-19d were as budgeted in mid-2011. Since that time two major projects have been removed from the budget totaling $13.2 million (replace

unit 2 nose in the main furnace and air heater baskets and sector plates). The other minor difference is that the costs shown in response to 1-19d include corporate overheads, whereas the costs in response to 1-49 represent direct costs only.

d. The underlying data for both responses come from the corporate budget system with the primary difference attributed to timing. For the ongoing capital cost considerations in Strategist, the Company included the projects as specified in response to 1-49. With the exception of those two projects that have been removed, all these projects are also included in the Company's forecast of capital expenditures.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-49, Attachment 1.

a. Of the "Big Sandy Unit 2 Major Non-Environmental Related Capital Costs" listed in this attachment that occur prior to or in the year 2015, which costs, if any, does the Company expect are unnecessary should the unit be retired in 2015? Please cite specific project, project cost, and year.

b. If the sum of the values in (a) is greater than zero, how were the avoidable capital costs treated in the Strategist model?

RESPONSE

a. No "Big Sandy Unit 2 Major Non-Environmental Related Capital Costs" through 2015 were excluded as being unnecessary.

b. N/A

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-52f and Direct Testimony of Scott Weaver pages 22 to 30.

a. Is it the Company's position that there is no material probability that PJM RTO will increase the percentage of wind nameplate MW-capacity it recognizes for capacity planning purposes between 2012 and 2040?

b. If yes, please explain the basis for the Company's position.

c. If no, please explain why the Company did not include this possibility in its sensitivity analyses?

RESPONSE

a-c. PJM criteria in Manual 21 (Rules and Procedures for Determination of Generating Capability); Appendix B (Calculating Capacity Values for Intermittent Resources) dictates that the ultimate capacity contribution from wind resources may be fully-modified from the going-in "13 percent" criterion based on establishment of 3-years of actual performance data. Under Section B.3, the capacity value for an intermittent resource would ultimately be based on the units' Capacity Factor during "Summer Peak Hours" defined as the period from June 1 through August 31, inclusive and the hours ending 3, 4, 5, and 6 PM local prevailing time. However, such performance data is not fully available for current AEP wind resources. The Company cannot draw any conclusion regarding the probability that the capacity contribution on any current wind resources will increase (or decrease) versus the base 13 percent criterion assumed over the forecast period. Further, the Company cannot assume that this PJM base criterion itself would be modified.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data requests 1-55, Direct Testimony of Weaver, pages 31 to 48, and Exhibit SCW-4. Please reconcile response 1-55a with the testimony of Mr. Weaver on page 47, lines 19-22.

RESPONSE

The response to 1-55a states that there is "no specific CPW valuation for purpose of determining a statistical point of indifference". Mr. Weaver's testimony on page 47, line 19-22 refers to two options being a "near wash". The term "near wash" is not a discrete or specific value. It is a subjective determination as to the magnitude of the difference between two model results. The two statements are not inconsistent.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data requests 1-57b and the Direct Testimony of Weaver, page 37, lines 4 to 6.

a. Did the Company evaluate locking in supplies and prices under long-term purchase power agreements for a portion of its requirements under Option 4? If not please explain why not.

b. If yes, please provide that analysis.

c. Is it Mr. Weaver's position that the power prices reported in Exhibit SCW-2 page 2 provide a reasonable estimate of the likely range of power prices through 2030? If not, please explain why not.

d. If yes, please reconcile that position with the characterization of the wholesale energy market in response 1-57b as "...an unpredictable market"

e. Is it Mr. Weaver's position that the projected cost of power under Option 1 is less uncertain, or more predictable, than the projected cost of power under Option 4? If yes, please provide all analyses prepared by or for Mr. Weaver to support that position. If not, please explain why not.

RESPONSE

a. No. Please see response to KPSC 1-50 and KPSC 1-65.

b. N/A

c. Yes.

d. The power prices in Exhibit SCW-2 reflect a representative "band-width" of a long-term pricing scenario as established by the AEP Fundamental Analysis group. In any given year, or for a period of years, there may be significant variations in prices from the assumed long-term trajectory for a variety of reasons.

e. The power prices were modeled consistently for each option. That is, when comparing modeled results for Option 1 versus, say, Option 3, that comparison was performed using the same pricing scenario profile. Generally, a decision to either retrofit or replace Big Sandy Unit 2, in and of itself, would essentially have little to no measurable impact on the projected PJM AEP Generating hub energy price.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-57b and the Direct Testimony of Weaver, page 37, lines 4 to 6. Please confirm that, under Option 4, the Company would retain the flexibility to change its mix of owned capacity and purchased power in reaction to changes in load, gas prices, environmental regulations, availability, and cost of renewable resources and power prices between 2012 and 2040? If not, please explain why not.

RESPONSE

The "flexibility" the Company would retain with Option 4 is questionable. Under Option 4 the Company would retire both Big Sandy Unit 1 and Unit 2 in 2015 and, therefore, must rely fully on market purchases to meet its customers' requirements during any interim period prior to a presupposed ultimate CC-build. Therefore, this would immediately eliminate coal from the Company's capacity (and energy) mix, and replace it with market purchases that would most likely emanate solely from gas-fired sources.

Contrastingly, Option 1 (as well as Options 2 and 3)--as indicated in the direct testimony of Mr. Weaver on page 52, line 1, through page 53, line 18--would offer a more reasonable "mix" of market purchase opportunities than Option 4 due to the need to replace the capacity and energy attributes of approximately 170-to-300 MW of retired KPCo generation.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-61 and Exhibit SCW-1 Table 1-4 on page 11.

a. By "load" and "demand" does the Company mean retail sales and retail demand? If not, please explain these terms.

b. Does the positive correlation of 0.75 mean that the Company assumes retail load will increase as wholesale power prices increase, and will decrease as wholesale power prices decrease? If yes, please provide the analyses and rationale supporting that assumption.

c. Please reconcile the positive correlation of 0.75 assumed between retail load and wholesale power prices with the price elasticity assumed in the Company's forecast of retail load.

RESPONSE

a. Yes.

b. Actually the relationship is converse to that suggested in the question in that the question confuses the independent and dependent variables. In the shorter run, as demand increases (the independent variable), the cost of supplying that power (dependent variable) increases as progressively expensive units must be dispatched. An examination of actual U.S. demand/sales and electricity pricing data support this. The Attachment #1 to this response offers such electricity demand: price correlations for all U.S. retail sectors for the years 1990 through 2010. As reflected in the attachment, the annual correlations of the monthly average retail sales and price data ranged from a maximum of 0.892 and a minimum of 0.515, hence a point of 0.75 was deemed as being reasonable for purpose of the exercise.

c. In the longer run, individuals will react to higher prices and curtail consumption; however, greater amounts of individuals will continue to desire electricity, ensuring that demand increases (and costs follow suit).

WITNESS: Scott C Weaver

Data

Year	Month	Sum of All Sector Sales (MWh)	Sum of Average Retail Price All Sectors (c/kWh)	Change in Sales (%)	Change in Costs (%)	Correlation
1990	1	240874655	6.265163			
	2	213362594	6.33419	-0.114217	0.011018	
	3	214067173	6.365542	0.003302	0.00495	
	4	205071739	6.350323	-0.042022	-0.002391	
	5	208151658	6.45696	0.015019	0.016792	
	6	227042513	6.707494	0.090755	0.0388	
	7	251589853	6.921349	0.108118	0.031883	
	8	252113432	6.889898	0.002081	-0.004544	
	9	245181443	6.853564	-0.027496	-0.005274	
	10	222306541	6.669587	-0.093298	-0.026844	
	11	209892183	6.460722	-0.055843	-0.031316	
	12	222900878	6.434927	0.061978	-0.003993	0.67192002
1990 Total						
1991	1	241208372	6.433831			
	2	219169956	6.531497	-0.091367	0.01518	
	3	214189211	6.551517	-0.022725	0.003065	
	4	206341259	6.530007	-0.03664	-0.003283	
	5	217298520	6.63425	0.053103	0.015964	
	6	237976539	6.922666	0.09516	0.043474	
	7	256897592	7.095115	0.079508	0.024911	
	8	258261379	7.074254	0.005309	-0.00294	
	9	244491486	7.016366	-0.053318	-0.008183	
	10	221625878	6.867532	-0.093523	-0.021212	
	11	216717257	6.592447	-0.022148	-0.040056	
	12	227825601	6.570218	0.051257	-0.003372	0.59525285
1991 Total						
1992	1	238701992	6.575861			
	2	226160547	6.580984	-0.05254	0.000779	
	3	219927249	6.603882	-0.027561	0.00348	
	4	211939567	6.574803	-0.03632	-0.004403	
	5	213685860	6.722423	0.00824	0.022452	
	6	227301266	6.992267	0.063717	0.040141	
	7	253154785	7.176107	0.113741	0.026292	
	8	253118975	7.146892	-0.000141	-0.004071	
	9	240099683	7.140795	-0.051435	-0.000853	
	10	224834295	6.916093	-0.063579	-0.031467	
	11	218543989	6.643357	-0.027978	-0.039435	
	12	235897266	6.660974	0.079404	0.002652	0.65697709
1992 Total						
1993	1	243302348	6.605845			
	2	228554933	6.586924	-0.060614	-0.002864	
	3	232626090	6.588002	0.017813	0.000164	
	4	215852470	6.61513	-0.072105	0.004118	
	5	214634431	6.81814	-0.005643	0.030689	
	6	237339172	7.131023	0.105783	0.04589	
	7	270168633	7.3602	0.138323	0.032138	
	8	273822926	7.350094	0.013526	-0.001373	

	9	252624982	7.322219	-0.077415	-0.003793	
	10	228383214	7.158392	-0.09596	-0.022374	
	11	222884652	6.745187	-0.024076	-0.057723	
	12	241268485	6.647637	0.082481	-0.014462	0.51499409
1993 Total						
1994	1	259911474	6.654699			
	2	238869073	6.68762	-0.08096	0.004947	
	3	231654914	6.677365	-0.030201	-0.001533	
	4	220032349	6.668542	-0.050172	-0.001321	
	5	221988465	6.800436	0.00889	0.019779	
	6	252719831	7.161699	0.138437	0.053124	
	7	277957564	7.361071	0.099864	0.027839	
	8	272838941	7.278334	-0.018415	-0.01124	
	9	254849176	7.243607	-0.065935	-0.004771	
	10	233808080	6.898214	-0.082563	-0.047683	
	11	226624312	6.642677	-0.030725	-0.037044	
	12	243308688	6.632242	0.073621	-0.001571	0.73508198
1994 Total						
1995	1	255279801	6.595128			
	2	239080051	6.682472	-0.063459	0.013244	
	3	236407863	6.659301	-0.011177	-0.003467	
	4	221898872	6.649653	-0.061373	-0.001449	
	5	229624199	6.745349	0.034815	0.014391	
	6	254949724	7.104571	0.110291	0.053255	
	7	281612763	7.347301	0.104582	0.034165	
	8	298838838	7.345009	0.061169	-0.000312	
	9	265949465	7.07967	-0.110057	-0.036125	
	10	241139211	6.948792	-0.093289	-0.018486	
	11	235608836	6.702761	-0.022934	-0.035406	
	12	252896952	6.637564	0.073376	-0.009727	0.69702751
1995 Total						
1996	1	272187175	6.603877			
	2	256104397	6.594341	-0.059087	-0.001444	
	3	249030012	6.643458	-0.027623	0.007448	
	4	230344994	6.626504	-0.075031	-0.002552	
	5	239642409	6.769861	0.040363	0.021634	
	6	265995380	7.028241	0.109968	0.038166	
	7	285986869	7.266266	0.075157	0.033867	
	8	289892682	7.294158	0.013657	0.003839	
	9	267921396	7.162046	-0.075791	-0.018112	
	10	245216393	6.906905	-0.084745	-0.035624	
	11	240820348	6.648384	-0.017927	-0.037429	
	12	257984977	6.572874	0.071276	-0.011358	0.69287523
1996 Total						
1997	1	275348279	6.610922			
	2	250867230	6.606313	-0.088909	-0.000697	
	3	243495595	6.658212	-0.029385	0.007856	
	4	234807931	6.580681	-0.035679	-0.011645	
	5	236745346	6.713589	0.008251	0.020197	
	6	261523406	7.068901	0.104661	0.052924	
	7	296350153	7.242469	0.133169	0.024554	
	8	294118094	7.233991	-0.007532	-0.001171	
	9	278671500	7.121796	-0.052518	-0.015509	
	10	262713399	6.898794	-0.057265	-0.031313	
	11	246800921	6.637592	-0.06057	-0.037862	

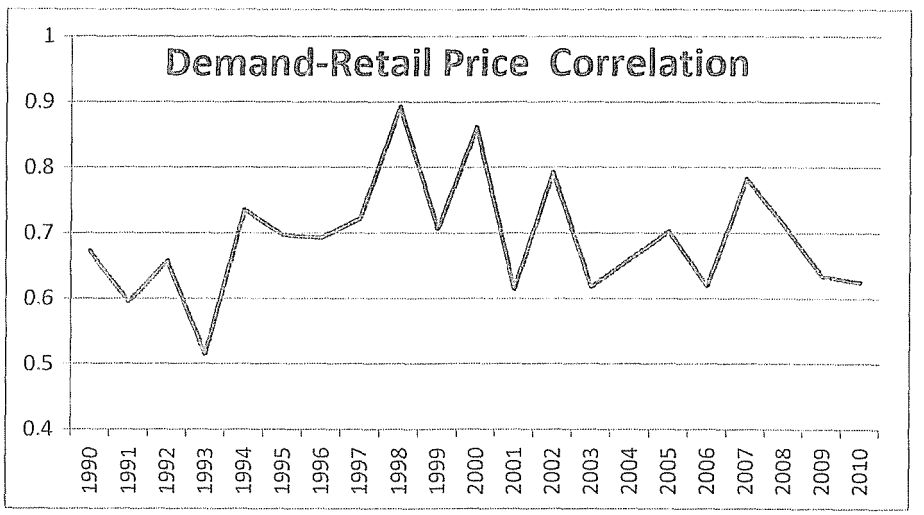
	12	264168576	6.594723	0.070371	-0.006458	0.72216365
1997 Total						
1998	1	270974243	6.565262			
	2	249150760	6.514956	-0.080537	-0.007662	
	3	253594497	6.519046	0.017836	0.000628	
	4	239417004	6.507829	-0.055906	-0.001721	
	5	253504374	6.666383	0.05884	0.024364	
	6	284174410	6.959442	0.120984	0.043961	
	7	313705685	7.204202	0.10392	0.035169	
	8	318959687	7.133188	0.016748	-0.009857	
	9	297282048	6.952278	-0.067964	-0.025362	
	10	266369730	6.684128	-0.103983	-0.03857	
	11	249819837	6.387155	-0.062131	-0.04443	
	12	267278474	6.45614	0.069885	0.010801	0.89239385
1998 Total						
1999	1	283835187	6.40699			
	2	251301711	6.479468	-0.114621	0.011312	
	3	260807320	6.409865	0.037825	-0.010742	
	4	246819164	6.386038	-0.053634	-0.003717	
	5	254493554	6.476916	0.031093	0.014231	
	6	284535877	6.802903	0.118047	0.050331	
	7	324089399	7.093649	0.139011	0.042739	
	8	322979503	7.058207	-0.003425	-0.004996	
	9	294853163	6.842435	-0.087084	-0.03057	
	10	265321058	6.682743	-0.100159	-0.023338	
	11	252461608	6.399606	-0.048468	-0.042368	
	12	270589539	6.378536	0.071805	-0.003292	0.70658952
1999 Total						
2000	1	288053623	6.398098			
	2	272147050	6.396573	-0.055221	-0.000238	
	3	262282721	6.445365	-0.036246	0.007628	
	4	248976033	6.434788	-0.050734	-0.001641	
	5	269104723	6.641809	0.080846	0.032172	
	6	299728477	7.060287	0.113799	0.063007	
	7	317632041	7.249354	0.059733	0.026779	
	8	330707792	7.33255	0.041166	0.011476	
	9	303708406	7.108574	-0.081641	-0.030545	
	10	272782879	6.937707	-0.101826	-0.024037	
	11	264107725	6.653176	-0.031802	-0.041012	
	12	292182786	6.845966	0.106302	0.028977	0.86221286
2000 Total						
2001	1	310816069	6.749372			
	2	272334738	6.866595	-0.123807	0.017368	
	3	269298401	7.010897	-0.011149	0.021015	
	4	254390935	7.019045	-0.055357	0.001162	
	5	264490492	7.172254	0.039701	0.021828	
	6	290008139	7.578027	0.096479	0.056575	
	7	315798054	7.877288	0.088928	0.039491	
	8	332192652	7.838032	0.051915	-0.004983	
	9	295925253	7.62481	-0.109176	-0.027204	
	10	267558796	7.429899	-0.095857	-0.025563	
	11	253033664	7.016403	-0.054288	-0.055653	
	12	268610911	7.025524	0.061562	0.0013	0.61408793
2001 Total						
2002	1	290967480	6.948302			

	2	263728263	6.970562	-0.093616	0.003204	
	3	267459800	6.948213	0.014149	-0.003206	
	4	257946375	6.954786	-0.03557	0.000946	
	5	269323294	7.108333	0.044106	0.022078	
	6	296469773	7.446531	0.100795	0.047578	
	7	337284677	7.682768	0.13767	0.031724	
	8	338114518	7.581237	0.00246	-0.013215	
	9	310497883	7.361132	-0.081678	-0.029033	
	10	284177962	7.199226	-0.084767	-0.021995	
	11	263033589	6.944581	-0.074405	-0.035371	
	12	286462396	6.960092	0.089072	0.002234	0.79280144
2002 Total						
2003	1	304262598	7.002965			
	2	282239575	7.045234	-0.072382	0.006036	
	3	274473419	7.164529	-0.027516	0.016933	
	4	256709985	7.26753	-0.064718	0.014377	
	5	268788091	7.418486	0.04705	0.020771	
	6	290449882	7.783898	0.080591	0.049257	
	7	334208693	8.015415	0.150659	0.029743	
	8	341819279	7.966643	0.022772	-0.006085	
	9	306589904	7.607301	-0.103064	-0.045106	
	10	277380216	7.385045	-0.095273	-0.029216	
	11	262976701	7.19031	-0.051927	-0.026369	
	12	293836142	7.136301	0.117347	-0.007511	0.61798165
2003 Total						
2004	1	307856465	7.215185			
	2	286433352	7.253974	-0.069588	0.005376	
	3	278181558	7.302818	-0.028809	0.006733	
	4	262850989	7.341401	-0.05511	0.005283	
	5	279035826	7.461807	0.061574	0.016401	
	6	307772359	7.925332	0.102985	0.06212	
	7	333907044	8.114373	0.084916	0.023853	
	8	330926528	8.178009	-0.008926	0.007842	
	9	308565833	7.971666	-0.06757	-0.025231	
	10	281736725	7.597675	-0.086948	-0.046915	
	11	270162928	7.424976	-0.04108	-0.02273	
	12	300049878	7.35991	0.110626	-0.008763	0.66063825
2004 Total						
2005	1	309078809	7.469902			
	2	279513820	7.577188	-0.095655	0.014362	
	3	286791119	7.586214	0.026036	0.001191	
	4	264167936	7.650655	-0.078884	0.008494	
	5	273500251	7.836961	0.035327	0.024352	
	6	319380923	8.382521	0.167754	0.069614	
	7	355514139	8.600536	0.113135	0.026008	
	8	362543685	8.712286	0.019773	0.012993	
	9	330923384	8.675096	-0.087218	-0.004269	
	10	297626309	8.374	-0.100619	-0.034708	
	11	274585467	8.211806	-0.077415	-0.019369	
	12	307342673	8.20604	0.119297	-0.000702	0.70284127
2005 Total						
2006	1	304865970	8.308621			
	2	281046416	8.485488	-0.078131	0.021287	
	3	289970260	8.439884	0.031752	-0.005374	
	4	268208305	8.564931	-0.075049	0.014816	

	5	287198134	8.710388	0.070803	0.016983	
	6	321839890	9.301037	0.12062	0.06781	
	7	362386770	9.551285	0.125985	0.026905	
	8	368633765	9.575567	0.017238	0.002542	
	9	317282100	9.317391	-0.139303	-0.026962	
	10	291186106	8.886368	-0.082249	-0.04626	
	11	277181969	8.632095	-0.048093	-0.028614	
	12	300119157	8.548558	0.082751	-0.009677	0.6195466
2006 Total						
2007	1	315103760	8.710699			
	2	301331315	8.735479	-0.043708	0.002845	
	3	291660348	8.800127	-0.032094	0.007401	
	4	275340507	8.824158	-0.055955	0.002731	
	5	292800259	8.962357	0.063411	0.015661	
	6	323006591	9.450337	0.103164	0.054448	
	7	352642316	9.644225	0.09175	0.020517	
	8	373364824	9.676194	0.058764	0.003315	
	9	337524565	9.430184	-0.095993	-0.025424	
	10	307782649	9.165749	-0.088118	-0.028041	
	11	286299306	8.944904	-0.0698	-0.024095	
	12	307704272	8.909858	0.074764	-0.003918	0.78279949
2007 Total						
2008	1	326263010	8.92473			
	2	305020938	8.918373	-0.065107	-0.000712	
	3	294647327	9.029194	-0.03401	0.012426	
	4	278094916	9.210056	-0.056177	0.020031	
	5	288161614	9.466034	0.036199	0.027793	
	6	328170269	10.25926	0.138841	0.083797	
	7	360260890	10.65032	0.097786	0.038118	
	8	351897935	10.57985	-0.023214	-0.006617	
	9	322456854	10.25753	-0.083664	-0.030465	
	10	291747771	9.964181	-0.095235	-0.028599	
	11	278037380	9.682498	-0.046994	-0.02827	
	12	308203277	9.571531	0.108496	-0.011461	0.71252796
2008 Total						
2009	1	321379420	9.664035			
	2	286869216	9.741343	-0.107381	0.008	
	3	283773493	9.64553	-0.010791	-0.009836	
	4	265765680	9.571476	-0.063458	-0.007678	
	5	275192676	9.757404	0.035471	0.019425	
	6	304955652	10.13116	0.108153	0.038305	
	7	338008821	10.29666	0.108387	0.016336	
	8	345050725	10.28339	0.020833	-0.001289	
	9	311058884	10.10416	-0.098513	-0.017428	
	10	287348208	9.703466	-0.076226	-0.039657	
	11	267876861	9.368825	-0.067762	-0.034487	
	12	309585231	9.37531	0.1557	0.000692	0.63393131
2009 Total						
2010	1	331820620	9.278213			
	2	298405780	9.47277	-0.100702	0.020969	
	3	292500386	9.478223	-0.01979	0.000576	
	4	267012832	9.532238	-0.087137	0.005699	
	5	283694955	9.724542	0.062477	0.020174	
	6	330902330	10.17617	0.166402	0.046442	
	7	369033971	10.46015	0.115235	0.027906	

	8	371766646	10.3984	0.007405	-0.005903	
	9	327743209	10.16673	-0.118417	-0.02228	
	10	287819524	9.808348	-0.121814	-0.03525	
	11	274866968	9.550937	-0.045002	-0.026244	
	12	318925833	9.516699	0.160292	-0.003585	0.62457314
2010 Total						

Year	Correlation Coefficient
1990	0.67192
1991	0.595253
1992	0.656977
1993	0.514994
1994	0.735082
1995	0.697028
1996	0.692875
1997	0.722164
1998	0.892394
1999	0.70659
2000	0.862213
2001	0.614088
2002	0.792801
2003	0.617982
2004	0.660638
2005	0.702841
2006	0.619547
2007	0.782799
2008	0.712528
2009	0.633931
2010	0.624573



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REQUEST

Refer to the Company's response to Sierra Club initial data requests 1-65, "In addition, the combustion turbine and turbine hardware have a limited life in that they can only be repaired a finite number of times. Hence, after the maximum number of repairs for a given part is reached, it generally must be replaced at a fairly high cost."

a. Please quantify the term "limited life". How many years or stop-start cycles does the Company assume "cost[ly]" combustion turbine components may be used for?

b. Please quantify the term "fairly high cost".

c. Please provide an expected timeline of maintenance costs and replacement costs at existing CC facilities in the PJM region.

d. Please provide any utility, industry, or contractor paper, analysis, presentation or other materials to the "emerging concern" referenced in the Direct Testimony of Weaver, p. 41 lines 17-20.

RESPONSE

a. The inspection timeline for key combustion turbine components is listed in Figure 44 of Attachment 1. GE bases gas turbine maintenance requirements on independent counts of starts and hours. Whichever criteria limit is first reached determines the maintenance interval. The recommendation for repair and replacement is based off of the number of these inspections. This information is stated in tabular form in table D-5 of Attachment 3.

   To give an example. We would perform our Combustion Inspection (CI) every 12,000 factored hours or 450 factored starts whichever came first (derived from the column MS7FA+e in figure 44). To determine the repair or replacement criteria for a specific component you would use table D-5. An example in reference to the combustion liners - You would repair them every CI (12,000 factored hours or 450 factored starts). The combustion liners would be replaced every third CI (12,000 hours *3 = 36000 hours) if you are on hours based or every 5th CI (450 starts * 5= 2250 starts) if you are starts based.

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b. Six to eight million dollars per turbine shaft.

c. The 20-year gas turbine forecast of Attachment 2 gives the cost estimates for the specific inspection/repair and replacements for AEP operated gas turbines.

d. This "concern" is not the result of any paper, analysis or presentation but rather an acknowledgement that existing, or 'grey', equipment and/or distressed CT/CC assets that may be available in the market are obviously 'older' and, hence, subject to these emerging maintenance and/or upgrade issues sooner than new-build alternatives.

WITNESS: Toby Thomas

Type of Inspection	Combustion System	Factored Hours/Factored Starts				
		MS3002K	MS5001PA/MS5002C, D	MS6B	MS7E/EA	MS9E
Combustion	Non-DLN	24000/400	12000/800 (1) (3)	12000/1200 (2) (3)	8000/900 (3)	8000/900 (3)
	DLN		8000/400	12000/450	12000/450	12000/450
Hot Gas Path		24000/1200	Eliminated/1200	24000/1200	24000/1200	24000/900
Major		48000/2400	48000/2400	48000/2400	48000/2400	48000/2400

Type of Inspection	Combustion System	Factored Hours/Factored Starts							
		MS6FA	MS6FA+e	MS7F/FA/FA+	MS7FA+e	MS9F/FA/FA+	MS9FA+e	MS7FB	MS9FB
Combustion	Non-DLN	8000/450	8000/450						
	DLN	8000/450	12000/450	8000/450	12000/450	8000/450	8000/450	12000/450	12000/450
Hot Gas Path		24000/900	24000/900	24000/900	24000/900	24000/900	24000/900	24000/900	24000/900
Major		48000/2400	48000/2400	48000/2400	48000/2400	48000/2400	48000/2400	48000/2400	48000/2400

Factors that can reduce maintenance intervals:

- Fuel
- Load setting
- Steam/water injection
- Peak load firing operation
- Trips
- Start cycle
- Hardware design

1. Units with Lean Head End liners have a 400-starts combustion inspection interval.
2. Machines with 6581 and 6BeV combustion hardware have a 12000/600 combustion inspection interval.
3. Multiple Non-DLN configurations exist (Standard, MNQC, IGCC). The typical case is shown; however, different quoting limits may exist on a machine and hardware basis. Contact a GE Energy representative for further information.

Note: Factored Hours/Starts intervals include an allowance for nominal trip maintenance factor effects.

Hours/Starts intervals for Major Inspection are quoted in Actual Hours and Actual Starts.

Repair/replace cycles reflect current production hardware, unless otherwise noted, and operation in accordance with manufacturer specifications. They represent initial recommended intervals in the absence of operating and condition experience.

Figure 44. Base line recommended inspection intervals: base load – gas fuel – dry

Inspection Intervals

In the absence of operating experience and resulting part conditions, *Figure 44* lists the recommended combustion, hot gas path and major inspection intervals for current production GE turbines operating under typical conditions of gas fuel, base load, and no water or steam injection. These recommended intervals represent factored hours or starts calculated using maintenance factors to account for application specific operating conditions. Initially, recommended intervals are based on the expected operation of a turbine at installation, but this should be reviewed and adjusted as actual operating and maintenance data are accumulated. While reductions in the recommended intervals will result from the factors described previously or unfavorable operating experience, increases in the recommended intervals may also be considered where operating experience has been favorable. The condition of the combustion and hot gas path parts provides a good basis for customizing a program of inspection and maintenance. The condition of the compressor and bearing assemblies is the key driver in planning a Major Inspection. Historical operation and machine conditions can be used to tailor custom maintenance programs such as optimized repair and inspection criteria to specific sites/machines. GE leverages these principles and accumulated site and fleet experience in a "Condition Based Maintenance" program as the basis for maintenance of units under Contractual Service Agreements. This experience was accumulated on units that operate with GE approved repairs, field services, monitoring and full compliance to GE's technical recommendations.

GE can assist operators in determining the appropriate maintenance intervals for their particular application. Equations have been developed that account for the factors described earlier and can be used to determine application specific hot gas path and major inspection intervals.

Gas Turbine 20yr Cost Forecast

Site	Model	Str/yr	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10		Year 11		Year 12		Year 13		Year 14		Year 15		Year 16		Year 17		Year 18		Year 19		Year 20	
			2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021	2022	2022	2023	2023	2024	2024	2025	2025	2026	2026	2027	2027	2028	2020	2029	2029
			Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
L'burg 1	7FA	100								HGP / Comp					CI								Major							CI / Parts						HGP / Parts							
L'burg 2	7FA	100	CI								HGP / Comp						CI								Major							CI / Parts						HGP / Parts					
L'burg 3	7FA	100				CI						HGP / Comp						CI								Major							CI / Parts						HGP / Parts				
L'burg 4	7FA	100				CI							HGP / Comp						CI								Major							CI / Parts						HGP / Parts			
L'burg ST 1	D11	100									VLV																							CI / Parts						HGP / Parts			
L'burg ST 2	D11	100										VLV													Major												VLV					
Wfrd 1	7FA	100				CI								HGP / Comp												Major													VLV			
Wfrd 2	7FA	100				CI									HGP / Comp					CI							Major							CI / Parts						HGP / Parts		
Wfrd 3	7FA	100					CI									HGP / Comp					CI							Major							CI / Parts						HGP / Parts	
Wfrd ST	D11	100														VLV						CI							Major							CI / Parts						HGP / Parts
Darby 1	7EA	45															CI w/ R17												Major													VLV
Darby 2	7EA	45																CI w/ R17																		HGP							
Darby 3	7EA	45																CI w/ R17																			HGP						
Darby 4	7EA	45																	CI w/ R17																		HGP						
Darby 5	7EA	45																CI																				HGP					
Darby 6	7EA	45															CI w/ R17																					HGP					
Ceredo 1	7EA	45						CI w/ R17																															HGP					
Ceredo 2	7EA	45						CI w/ R17																			HGP																
Ceredo 3	7EA	45							CI w/ R17																		HGP																
Ceredo 4	7EA	45								CI w/ R17																		HGP															
Ceredo 5	7EA	45								CI w/ R17																			HGP														
Ceredo 6	7EA	45									CI w/ R17																		HGP														
Mone 1	7FA	45						CI																						HGP												
Mone 2	7FA	45							CI																	HGP / Comp																
Mone 3	7FA	45								CI																	HGP / Comp															
Dresden 1	7FA	100																					CI							HGP / Comp												
Dresden 2	7FA	100																							CI							HGP / Comp						CI				
Dresden ST	D11	100																																					CI				
Mattison 1	7EA	65	CI												HGP / R17																												
Mattison 2	7EA	65			CI											HGP / R17													CI											Major				
Mattison 3	7EA	65								CI												HGP / R17						CI												Major			
Mattison 4	7EA	65								CI													HGP / R17											CI									
Southwest 1	7EA	65									CI													HGP/17											CI								
Southwest 2	7EA	65										CI													HGP/17											CI							
Riverside 1	7EA	65							CI											HGP / R17																	CI							
Riverside 2	7EA	65								CI											HGP / R17																	CI						

Cost Breakdown (2009 Dollars)

	7EA CI	7EA CI W/ R17 Changeout	7EA HGP	7EA HGP W/ R17 Changeout	7EA Major / Gen. Inspection	7FA CI	7FA CI w/ New Parts	7FA HGP W/ Comp Inspect	7FA HGP	7FA HGP w/ New Parts	7FA Major / Gen Inspection	D11 ST Valve	D11 ST Major / Gen Inspection
Removal	$80,000.00	$100,000.00	$125,000.00	$165,000.00	$300,000.00	$100,000.00	$100,000.00	$850,000.00	$350,000.00	$350,000.00	$900,000.00	$100,000.00	$400,000.00
Reassembly	$150,000.00	$260,000.00	$325,000.00	$365,000.00	$500,000.00	$250,000.00	$250,000.00	$850,000.00	$350,000.00	$350,000.00	$900,000.00	$150,000.00	$800,000.00
New Parts	-	$55,000.00	-	$55,000.00	-	-	$3,700,000.00	$1,100,000.00	$1,100,000.00	$7,600,000.00	$1,250,000.00	$150,000.00	$500,000.00
Repairs	$225,000.00	$225,000.00	$1,000,000.00	$1,000,000.00	$1,250,000.00	$420,000.00	-	$3,000,000.00	$3,000,000.00	$420,000.00	$3,000,000.00	$50,000.00	$1,500,000.00
Total	$455,000.00	$640,000.00	$1,450,000.00	$1,585,000.00	$2,050,000.00	$770,000.00	$4,050,000.00	$5,800,000.00	$4,800,000.00	$8,720,000.00	$6,050,000.00	$450,000.00	$3,200,000.00

KPSC Case No. 2011-00401
Sierra Club's Supplemental Data Requests
Dated February 8, 2012
Item No. 33
Attachment 2
Page 1 of 1

PG7001(EA) / PG9001(E) Parts

	Repair Interval	Replace Interval (Hours)	Replace Interval (Starts)
Combustion Liners	CI	3 (CI) / 5 (CI)[1]	5 (CI)
Caps	CI	3 (CI)	5 (CI)
Transition Pieces	CI	4 (CI) / 6 (CI)[5]	6 (CI)
Fuel Nozzles	CI	2 (CI) / 3 (CI)[6]	3 (CI)
Crossfire Tubes	CI	1 (CI)	1 (CI)
Crossfire Tube Retaining Clips	CI	1 (CI)	1 (CI)
Flow Divider (Distillate)	CI	3 (CI)	3 (CI)
Fuel Pump (Distillate)	CI	3 (CI)	3 (CI)
Stage 1 Nozzles	HGPI	3 (HGPI)	3 (HGPI)
Stage 2 Nozzles	HGPI	3 (HGPI)	3 (HGPI)
Stage 3 Nozzles	HGPI	3 (HGPI)	3 (HGPI)
Stage 1 Shrouds	HGPI	2 (HGPI)	2 (HGPI)
Stage 2 Shrouds	HGPI	3 (HGPI)	4 (HGPI)
Stage 3 Shrouds	HGPI	3 (HGPI)	4 (HGPI)
Stage 1 Bucket	HGPI	3 (HGPI)[2][3]	3 (HGPI)
Stage 2 Bucket	HGPI	3 (HGPI)[4]	4 (HGPI)
Stage 3 Bucket	HGPI	3 (HGPI)	4 (HGPI)

Note: Repair/replace cycles reflect current production hardware, unless otherwise noted, and operation in accordance with manufacturer specifications. They represent initial recommended intervals in the absence of operating and condition experience. For factored hours and starts of the repair intervals, refer to Figure 44

CI = Combustion Inspection Interval
HGPI = Hot Gas Path Inspection Interval

(1) 3 (CI) for DLN / 5 (CI) for non-DLN

(2) Strip and Recoat is required at first HGPI to achieve 3 HGPI replace interval for all E-Class

(3) Uprated 7EA machines (2055 Tfire) require HIP rejuvenation at first HGPI to achieve 3 HGPI replace interval

(4) 3 (HGPI) interval requires meeting tip shroud engagement criteria at prior HGP repair intervals. Consult your GE Energy representative for details.

(5) 4 (CI) for DLN / 6 (CI) for non-DLN

(6) 2 (CI) for DLN / 3 (CI) for non-DLN

Figure D-5. Estimated repair and replacement cycles

PG6101(FA): 6FA.01 Parts

	Repair Interval	Replace Interval (Hours)	Replace Interval (Starts)
Combustion Liners	CI	6 (CI)	5 (CI)
Caps	CI	6 (CI)	5 (CI)
Transition Pieces	CI	6 (CI)	5 (CI)
Fuel Nozzles	CI	3 (CI)	3 (CI)
Crossfire Tubes	CI	1 (CI)	1 (CI)
Crossfire Tube Retaining Clips	CI	1 (CI)	1 (CI)
End Covers	CI	6 (CI)	3 (CI)
Stage 1 Nozzles	HGPI	3 (HGPI)	3 (HGPI)
Stage 2 Nozzles	HGPI	3 (HGPI)	3 (HGPI)
Stage 3 Nozzles	HGPI	3 (HGPI)	3 (HGPI)
Stage 1 Shrouds	HGPI	2 (HGPI)	2 (HGPI)
Stage 2 Shrouds	HGPI	2 (HGPI)	2 (HGPI)
Stage 3 Shrouds	HGPI	3 (HGPI)	3 (HGPI)
Stage 1 Bucket	HGPI	2 (HGPI)	2 (HGPI)[1]
Stage 2 Bucket	HGPI	1 (HGPI)[3]	3 (HGPI)[2]
Stage 3 Bucket	HGPI	3 (HGPI)[2]	3 (HGPI)[2]

Note: Repair/replace cycles reflect current production hardware, unless otherwise noted, and operation in accordance with manufacturer specifications. They represent initial recommended intervals in the absence of operating and condition experience. For factored hours and starts of the repair intervals, refer to Figure 44.

CI = Combustion Inspection Interval
HGPI = Hot Gas Path Inspection Interval

(1) GE approved repair operations may be needed to meet expected life. Consult your GE Energy representative for details.

(2) With welded hardface on shroud, recoating at 1st HGPI is required to achieve replacement life.

(3) Repair may be required on non-scalloped-from-birth parts. Redesigned bucket is capable of 3 (HGPI).

Figure D-6. Estimated repair and replacement cycles

PG6111(FA): 6FA.02 Parts

	Repair Interval	Replace Interval (Hours)	Replace Interval (Starts)
Combustion Liners	CI	2 (CI)	2 (CI)
Caps	CI	3 (CI)	2 (CI)
Transition Pieces	CI	3 (CI)	2 (CI)
Fuel Nozzles	CI	2 (CI)	2 (CI)
Crossfire Tubes	CI	1 (CI)	1 (CI)
Crossfire Tube Retaining Clips	CI	1 (CI)	1 (CI)
End Covers	CI	4 (CI)	2 (CI)
Stage 1 Nozzles	HGPI	2 (HGPI)	2 (HGPI)
Stage 2 Nozzles	HGPI	2 (HGPI)	2 (HGPI)
Stage 3 Nozzles	HGPI	3 (HGPI)	3 (HGPI)
Stage 1 Shrouds	HGPI	2 (HGPI)	2 (HGPI)
Stage 2 Shrouds	HGPI	2 (HGPI)	2 (HGPI)
Stage 3 Shrouds	HGPI	3 (HGPI)	3 (HGPI)
Stage 1 Buckets	HGPI	3 (HGPI)	2 (HGPI)
Stage 2 Buckets	HGPI	3 (HGPI)	2 (HGPI)
Stage 3 Buckets	HGPI	2 (HGPI)	3 (HGPI)

Note: Repair/replace cycles reflect current production hardware, unless otherwise noted, and operation in accordance with manufacturer specifications. They represent initial recommended intervals in the absence of operating and condition experience. For factored hours and starts of the repair intervals, refer to Figure 44

CI = Combustion Inspection Interval
HGPI = Hot Gas Path Inspection Interval

Figure D-7. Estimated repair and replacement cycles

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-68, and the Direct Testimony of Scott Weaver page 47 line 15 through page 48 line 2 and SCW-5.

a. Please provide all inputs to the Aurora model, in machine readable format.

b. Please provide the distribution assumed for each of the six key risk factors considered by the Aurora model, in machine readable format.

c. Please provide the rationale supporting each of the distributions assumed for each of the six key risk factors.

RESPONSE

a. Please see attached files on accompanying CD.

b. Please see attached files on accompanying CD.

c. A normal distribution was assumed for all of the risk factors; commodity prices of all types are typically normally distributed.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Sierra Club initial data request 1-69 and Exhibit SCW-5 regarding the use of Aurora to test the sensitivity of the Company's four options.

a. Please provide all inputs to the Aurora model in operational, electronic format.

b. Please provide all outputs from the Aurora model, by year, in operational, electronic format.

c. Please provide all inputs used to prepare Exhibit SCW-5, by year, in operational, electronic format.

d. Please provide all workpapers used to prepare Exhibit SCW-5 in operational, electronic format.

RESPONSE

a. See response to Sierra Club's 2-34a.

b. See accompanying CD for Excel files for part b. of this response.

c. & d. See accompanying CD for Excel files for parts c. & d. of this response.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Refer to the Company's response to Attorney General initial data request 1-12.

a. Please provide the analyses underlying the Company's estimate of a gas price elasticity of 1.

b. Please reconcile the Company's correlation between gas prices and electric load in Table 1-4 of Exhibit SCW-1 with a gas price elasticity of 1.

RESPONSE

a. The Energy Information Administration's 2011 Annual Energy Outlook projects Lower 48 dry gas production and wellhead price. The percentage change in supply divided by the percentage change in price for the period from 2013 through 2024.averages 1.06. At the core of this elasticity is the realization that natural gas production from shale resources is essentially in "inventory" awaiting the price signal to develop an additional tranche. Natural gas from shale resources is projected to be abundant throughout the term of the forecast.

b. The Company offers that the "gas price elasticity" is the percentage change in natural gas supply divided by the percentage change in natural gas price. The Company did not intend to represent that this "gas price elasticity" is related to electric load.

WITNESS: Karl R Bletzacker

Kentucky Power Company

REQUEST

Refer to the Company's response to Staff initial data request 1-3.

a. When does the Company expect to execute a replacement pool agreement?

b. Please provide the Company's evaluation of the replacement pool agreement when it has completed that evaluation.

RESPONSE

a. The proposed new Power Cost Sharing Agreement was filed at FERC on February 10, 2012.

b. See the Company's response to KPSC 2-1, part b.

WITNESS: Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to the Company's response to Staff initial data request 1-65. Please reconcile the Company's long-term goal of maintaining a generation presence in eastern Kentucky with its response to Sierra Club initial data request 52 regarding the possibility of replacing Big Sandy 2 with capacity from the Mitchell units in West Virginia.

RESPONSE

Please refer to the Company's response to Staff's 2-16 for an explanation of its "going-in desire" for maintaining a generation presence in eastern Kentucky.

The referenced analysis was performed after this application was filed. As the Response indicates, the timing of the Response was driven by the possibility of the Ohio Separation. The analysis includes the review of various possibilities using capacity from the Mitchell units. The Company's current plan is to purchase 20% of the two Mitchell units as a replacement for Big Sandy Unit 1 and to fill the Company's capacity deficit as part of the FERC filing made on February 10, 2011 for our Power Cost Sharing Agreement.

The two responses are not contradictory because they relate to two different time periods, and because the first reflects an initial desire and the second reflects action considered in light of intervening regulatory developments.

WITNESS: Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to the Company's responses to Staff initial data requests 1-68 and 1-71, Sierra Club initial data request 1-47, and Attorney General initial data request 1-13 regarding the use of Aurora to develop projections of wholesale power prices.

a. Please provide all inputs to the Aurora model for that simulation in operational, electronic format.

b. Please provide all outputs from the Aurora model for that simulation, by year, in operational, electronic form.

RESPONSE

a&b. See attached files on accompanying CD.

WITNESS: Scott C Weaver

Kentucky Power Company

REQUEST

Identify any transmission grid upgrades or additions that would be needed to avoid transmission grid reliability, stability, or voltage support problems that could result from the retirement of Big Sandy Unit 1, Big Sandy Unit 2, or both units. For each such upgrade or addition, identify the cost of such upgrade or addition.

RESPONSE

Within the PJM Regional Transmission Expansion Plan (RTEP) planning process, generator retirements are not considered until such time official deactivation notice has been filed. PJM has not assessed the reliability impact of the Big Sandy retirements since no official filings have been made.

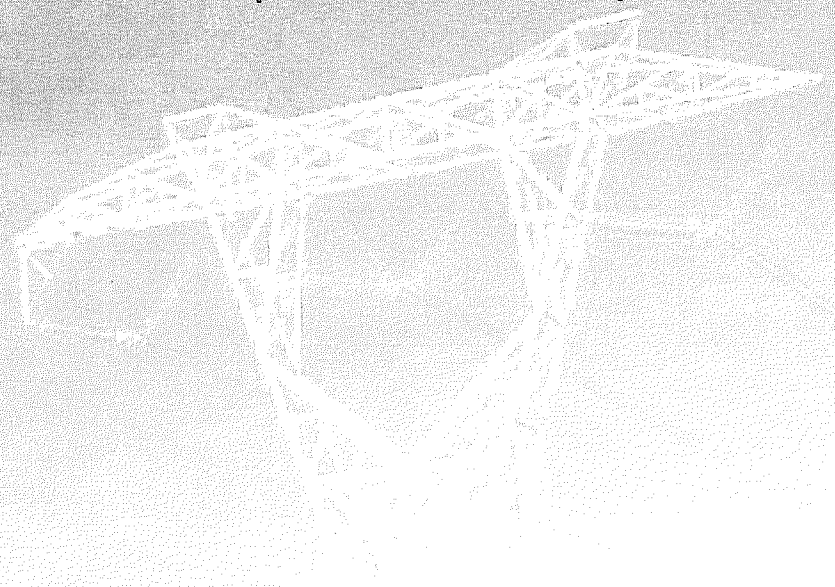
Given the long lead time for typical transmission projects, AEP Transmission Planning has been informally evaluating the potential reliability concerns resulting from collective unit retirements across the transmission system in order to develop proactive mitigation plans, where needed. Preliminary results show the potential for overloads on 138 kV lines in the area near Big Sandy under various scenarios.

Concurrent with these studies, PJM performed reliability analyses as part of the 2010 RTEP process. As shown on slide 23 of the October 28, 2010 Transmission Expansion Advisory Committee (TEAC) presentation, Attachment 1 on the accompanying CD, 138 kV overloads were identified for the loss of the Baker 765/345 kV transformer in 2015. These reliability violations determined through business-as-usual planning and not a result of Big Sandy retirements. AEP proposed a second 765/345 kV transformer and associated installation of new circuit breakers at Baker to alleviate these reliability violations. Estimated at $46 million, the project was significantly less costly than rebuilding the various 138 kV lines and thus chosen as the preferred alternative. The project was approved by PJM under Baseline and Operational Performance criteria.

While specifically proposed to address reliability issues identified by PJM and not generation retirement concerns, the proposed 765/345 kV transformer and associated circuit breaker installations at Baker Station will alleviate some of the same 138 kV overloads identified in the AEP studies. The direct impact of retirements of Big Sandy units would not be known until such time that PJM performs a detailed analysis; however, no additional upgrades are anticipated for the area at this time.

WITNESS: Ranie K. Wohnhas

Transmission Expansion Advisory Committee



October 28, 2010

Issues Tracking

Issues Tracking

Open Issues: None

New Issues:

Aging Infrastructure

Mt Storm – Doubs Rebuild

Mt Storm – Doubs Background

- 99.26 mile line built in 1966
- Major west to east transmission line in Mid-Atlantic
- Heavily loaded; driver for major system reinforcements since the 2006 RTEP
- Approaching end of life
- Despite aggressive efforts since mid-1970's to identify, confirm and repair effects of excessive corrosion, line must be rebuilt now to address risk of physical failure of these critical facilities

A1

Mt Storm – Doubs Background

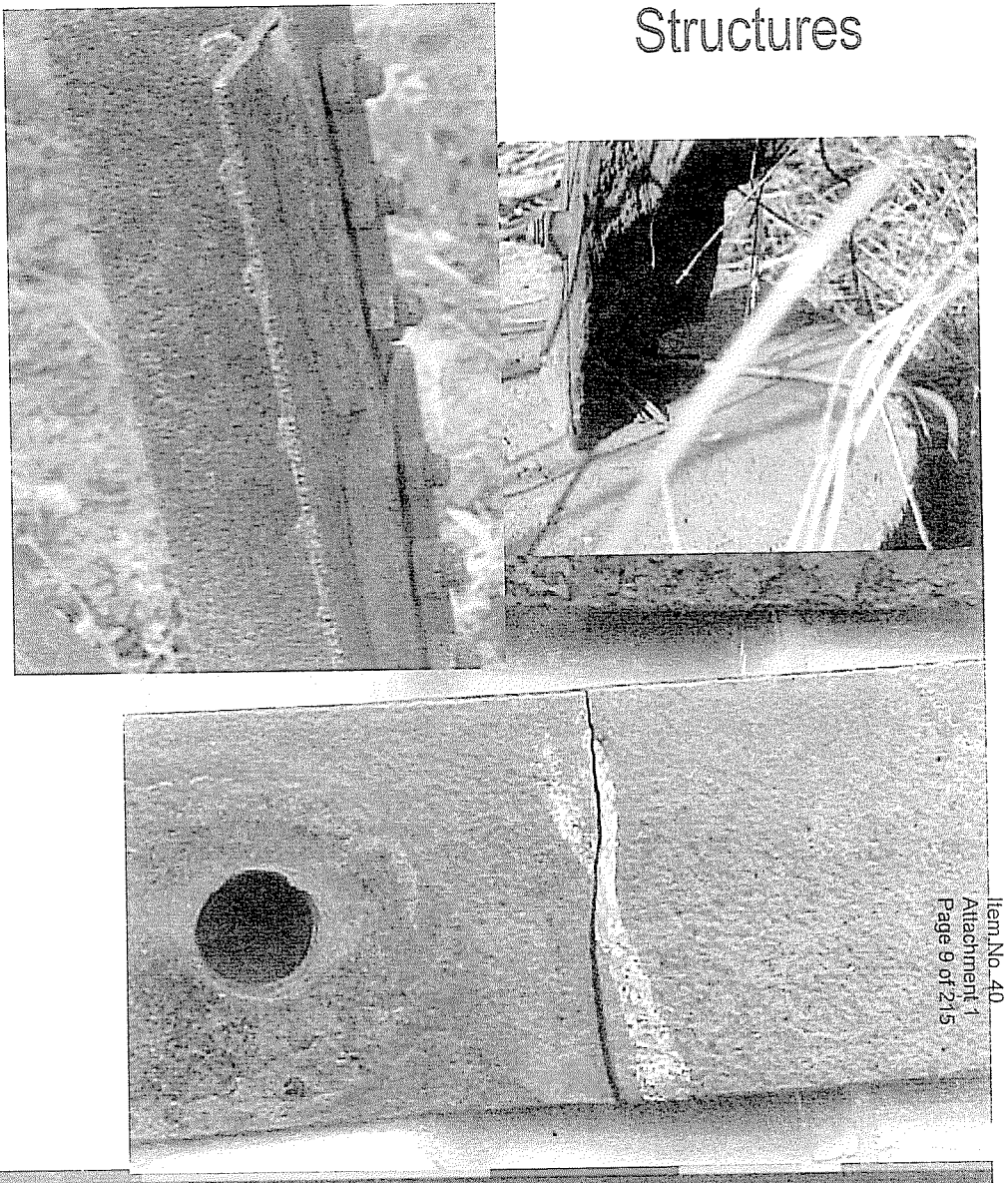
- Very difficult to take out of service due to critical nature of line and loading levels
- Could not rebuild in time to address need for Trail in 2011 (Trail)
- Potential window of opportunity to rebuild would be after Trail
- Typical outage availability at least 90 days twice a year (spring and fall)
- Provides time for other outages that impact EHV

Slide 7

A1 Author, 10/25/2010

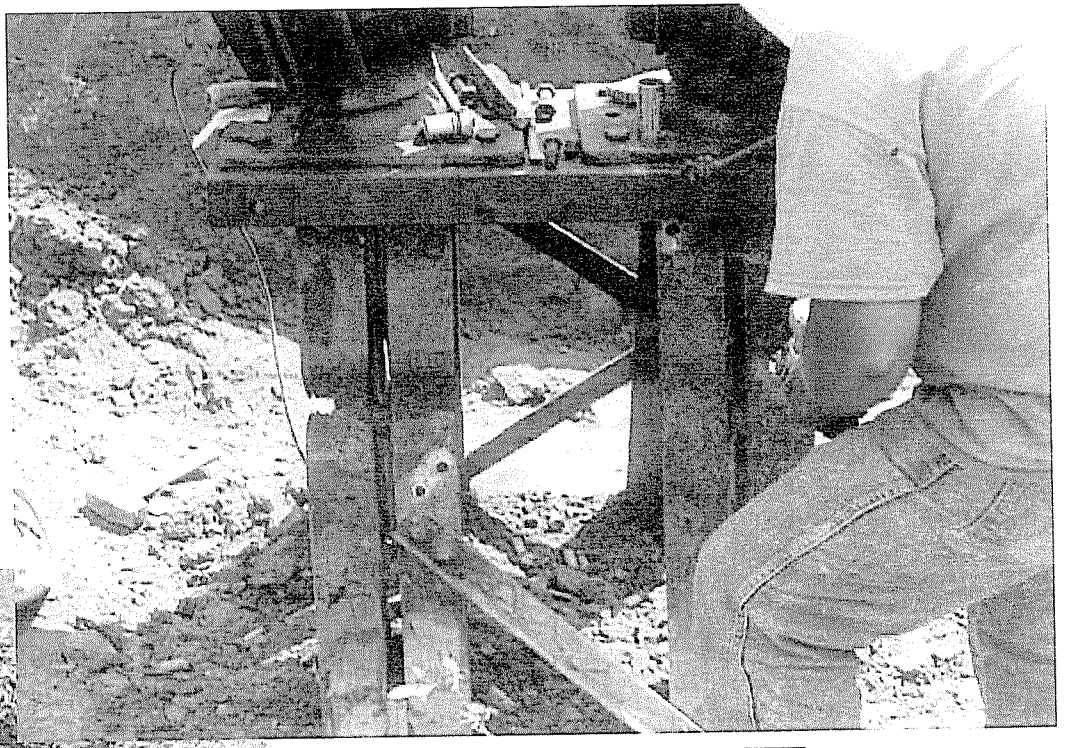
Structures

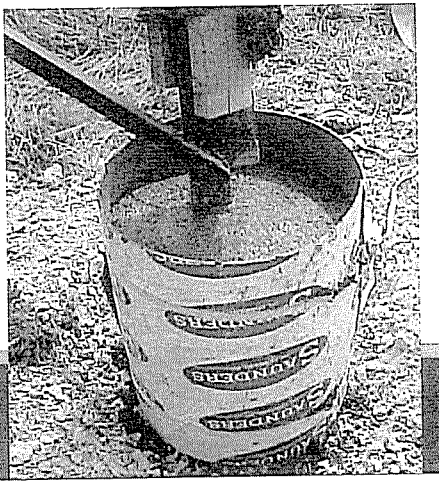
- Over 450 Corten lattice structures
- Corrosion problems have led to continuous deterioration of the steel members
- Excessive corrosion weakens the towers and will lead to failure
- Climbing inspection of all towers completed with replacement of deteriorated members as required
- No leg members have been replaced to date



Foundations

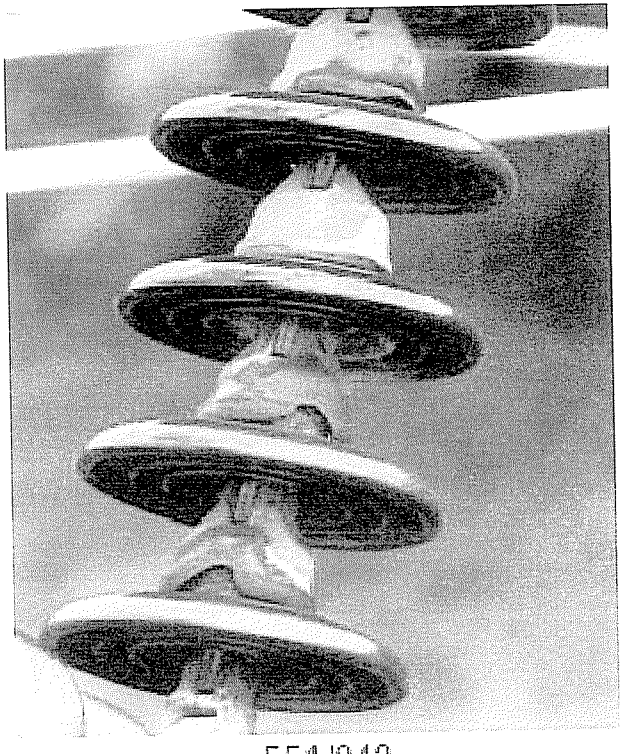
- Grillage foundations used for guyed towers suffer from the same corrosion problem
- Require extensive repair and remedial action
- Concrete foundations on self supporting structures have deteriorated as well
- Concrete foundations have been reconditioned





Line and Insulator Hardware

- Porcelain "V" strings and deadend strings
- Over 71,000 units
- No corona rings
- Experiencing excessive insulator cap erosion and puncture
- Higher voltage stress on remaining insulators
- Over 200 conductor tension splices at end of life based on industry experience



551/343

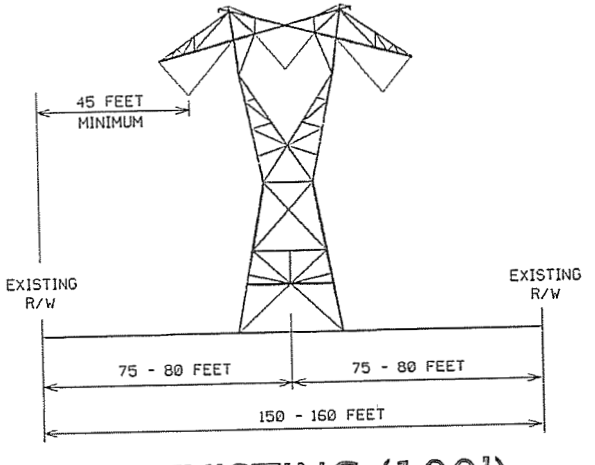
Middle phase north string corroded bells, bottom two and 4th up string

Further Actions to Date

- Following confirmation of loss of steel thickness from 1984 and 1998 measurements, replacement of individual tower members ongoing since1999; climbing inspections revealed even more significant fatigue cracking
- Fatigue failure requiring replacement of arm hanger members has been an ongoing effort since the 1990's
- Grips on all guyed V towers replaced by 2004, based on manufacturer recommendation that grips had reached end of useful life
- 2006 up-rate increased rated capacity by 15% to 2598 MVA by earth grading to increase ground clearances; tower modifications precluded by weakened condition of steel due to corrosion

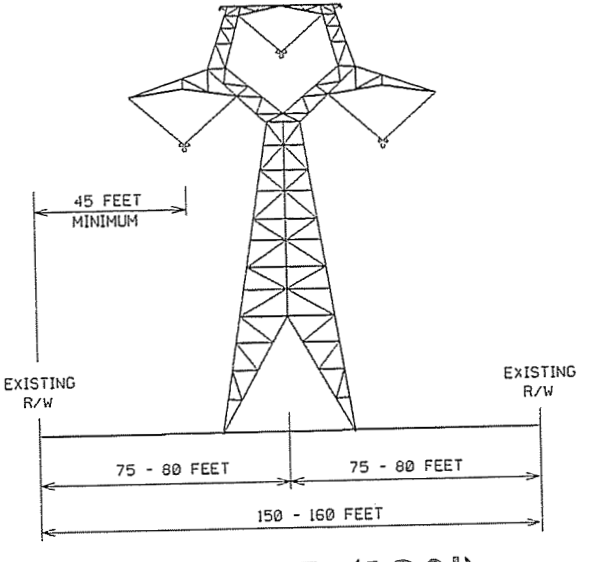
Rebuilt Line Comparison

- Typical existing structure ~100 feet
- Existing ROW 150-160 ft
- Rating: 2598 MVA



EXISTING (100')

- Typical new structures ~ 130 feet
- Proposed ROW 150-160 ft
- Rating: 4325 MVA



PROPOSED (130')

Summary

- Mt Storm – Doubs is one of the most heavily loaded lines with one of the lowest ratings
- Identified as a limiting facility in every RTEP since 2006
- Based on the 2010 RTEP the 2025 loading will exceed 95% regardless of the alternative selected
- Line is nearing the end of life and at risk of major failure – domino effect

Recommendation

- Add Mt Storm – Doubs rebuild to the RTEP as a baseline upgrade in the Operational Performance category
- Estimated cost: $320 - $370 Million (Includes APS and Dominion Cost)

Schedule

- Window of opportunity to get line outages after Trail is placed in service in the Spring of 2011
- Transmission owners should use best efforts to complete the work by 2015
  - If sufficient outages can not be obtained to complete the work by 2015, the full scope will be finished following PATH being placed in-service.
  - After completion of PATH, outages should be more available
  - Based on worst case estimate, the project could take as long as nine years; therefore it is imperative the parties start as soon as possible

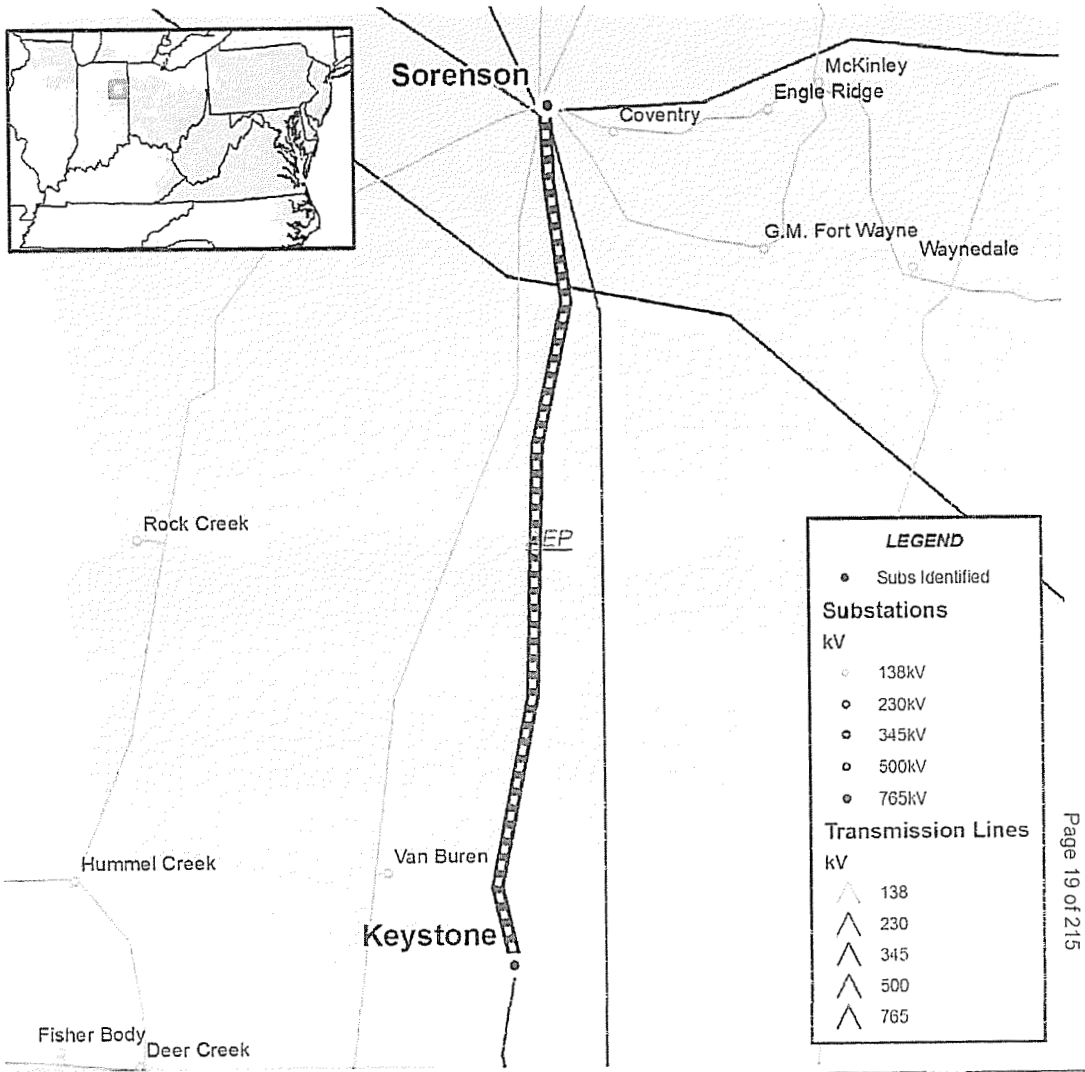
Baseline Reliability Update

2014 Retool Analysis

- 2014 Retool Analysis is in-progress
- Potential for voltage violations
- SVC locations evaluated as part of MAAC and EMAAC alternative analysis
- SVC Optimization

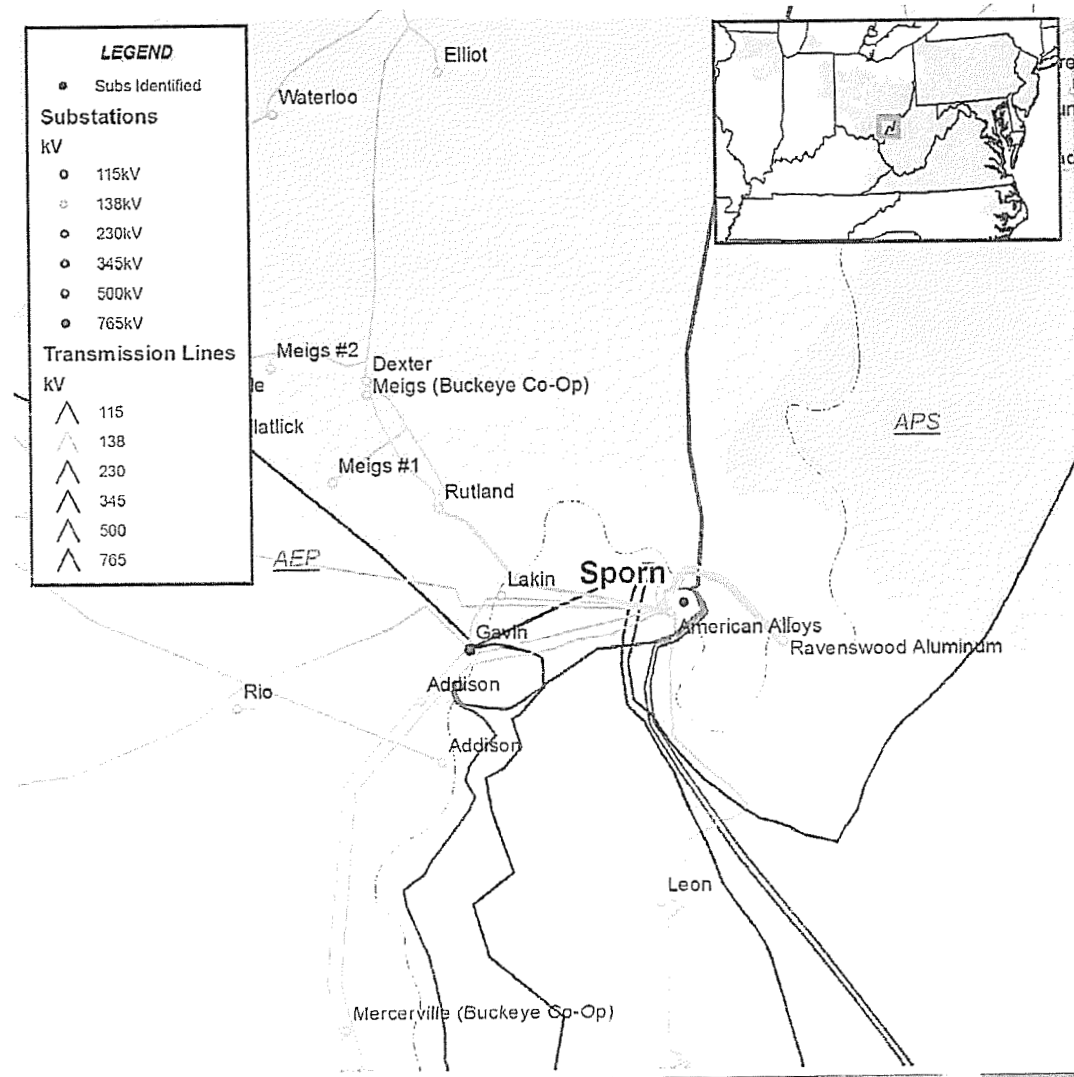
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Keystone – Sorenson 345KV line is overload for Loss of the Greentown - Jefferson 765 kV line and Desoto – Sorenson 345 kV line
- Recommended Solution: A sag study will be required to increase the emergency rating for this line. Depending on the outcome of this study, more action may be required in order to increase the rating. (B1420)
- Estimated Project Cost: $0.1012 M
- Expected IS Date: 12/31/2011



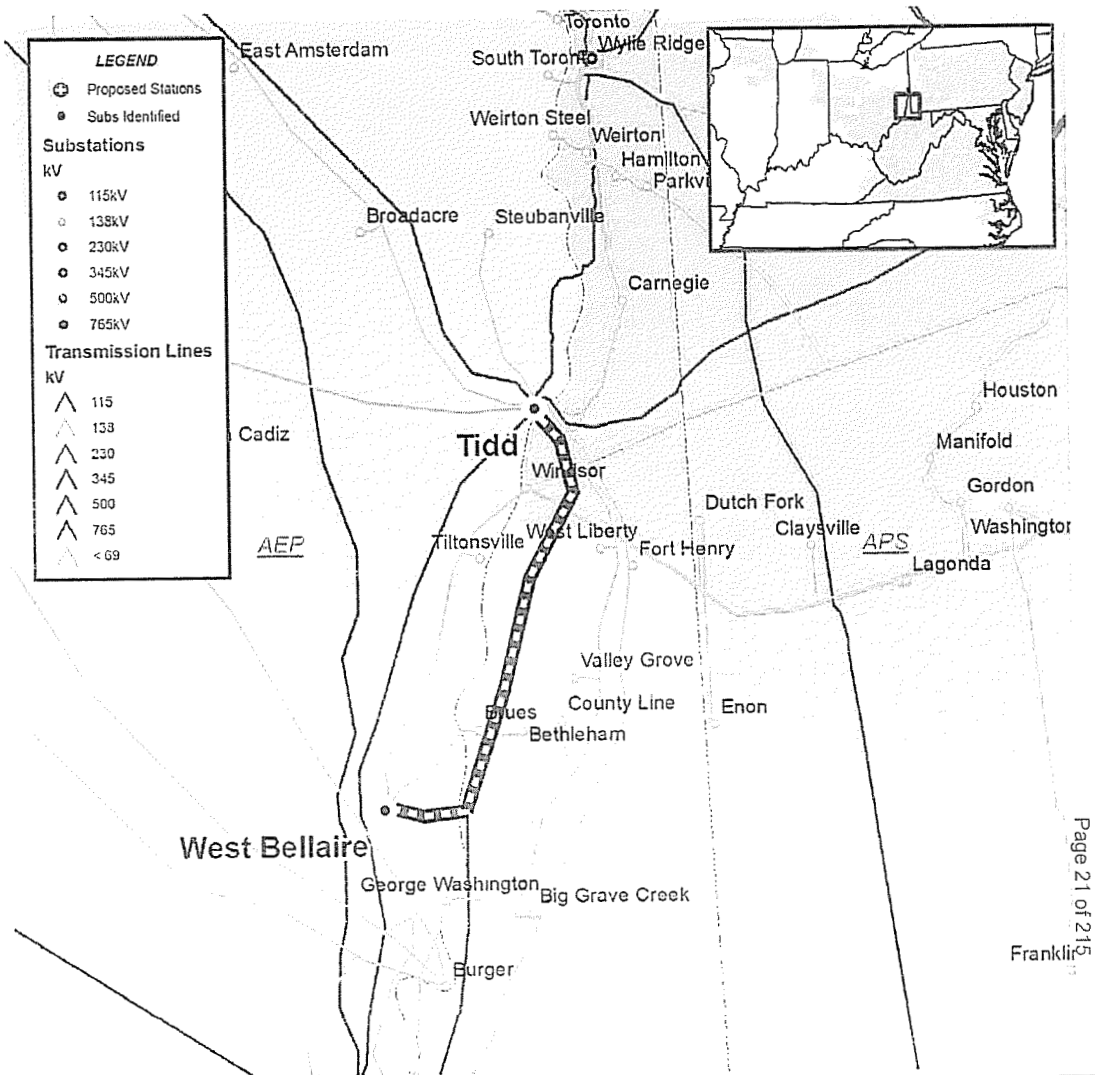
AEP Transmission Zone

- Generator Deliverability Violation
- The N42 Tap - Sporn 345 KV line is overload for the loss of the Muskingum River – Waterford 345kV line
- Recommended Solution: Replace the 2870 MCM ACSR riser at the Sporn station (B1435)
- Estimated Project Cost: $0.3 M
- Expected IS Date: 6/1/2015



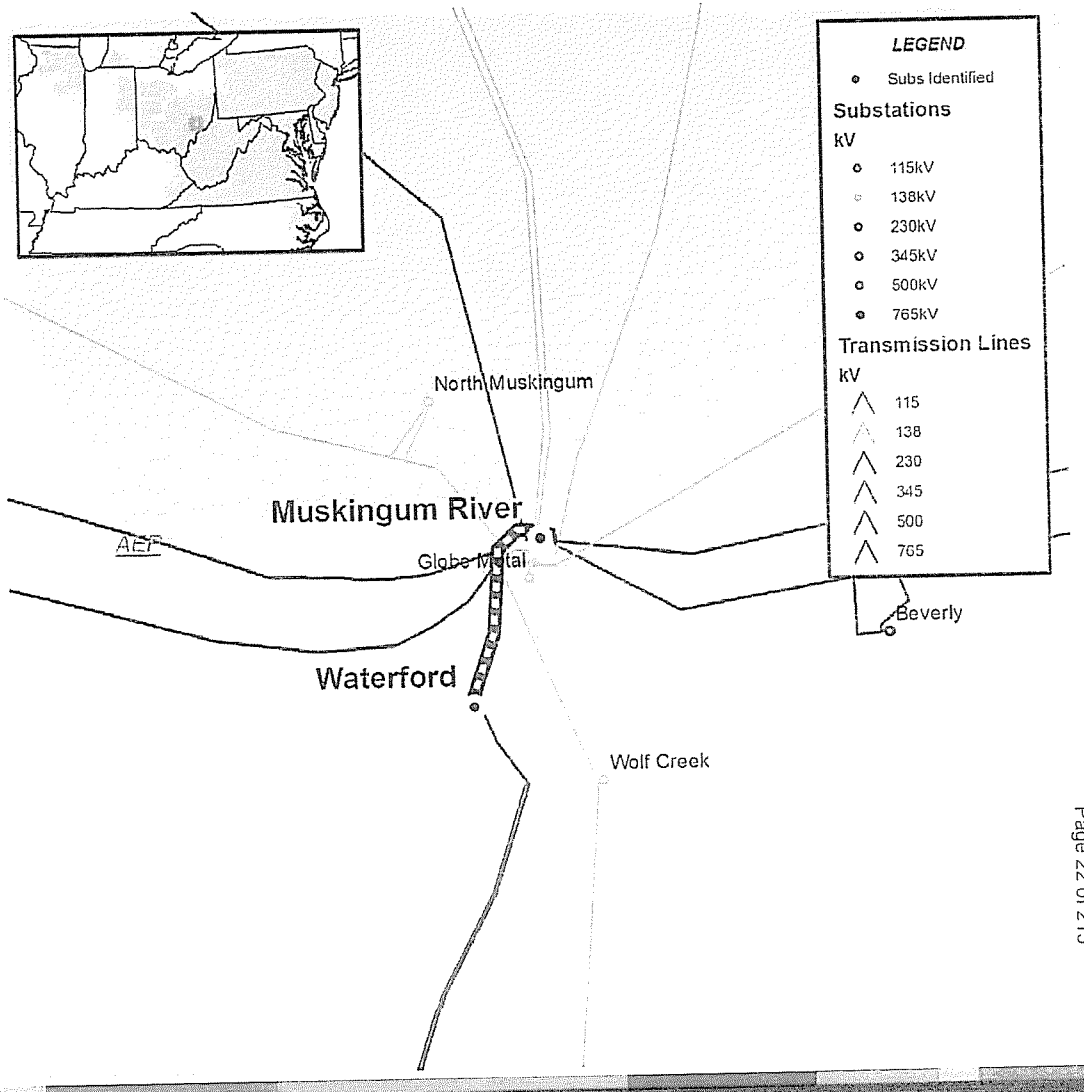
AEP Transmission Zone

- Common Mode Outage Violation
- The West Bellaire – Tidd 345KV line is overloaded for a Kammer – South Canton 765kV line fault with a stuck breaker at Kammer
- Recommended Solution: The Tidd - West Bellaire 345 kV circuit has been de-rated to its normal rating and would need an electrical clearance study to determine if the emergency rating can be utilized (B1456)
- Estimated Project Cost: $0.078 M
- Expected IS Date: 12/31/2012



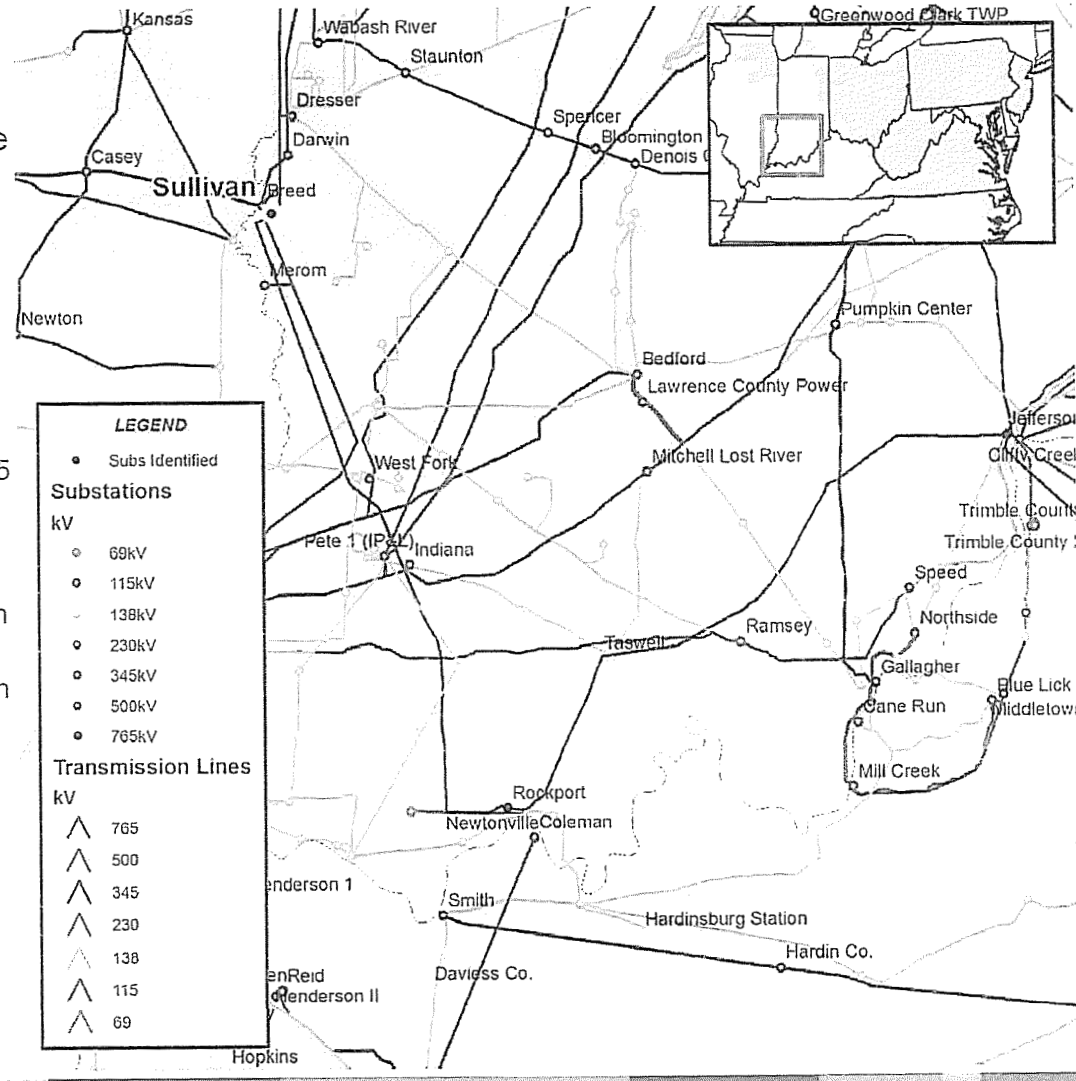
AEP Transmission Zone

- Generator Deliverability Violation
- The Waterford – Muskingum River 345KV line is overloaded for system normal condition and for the loss of Kammer - Belmont – Mountaineer 765kV line
- Recommended Solution: Reconductor Wateford – Muskingum 345 kV (5 miles) with 1590 kCM ACSR/SSAC 54/19 six wired and upgrade Muskingum risers (B1460)
- Potential Cost: $14 M
- Expected IS Date: 6/1/2015



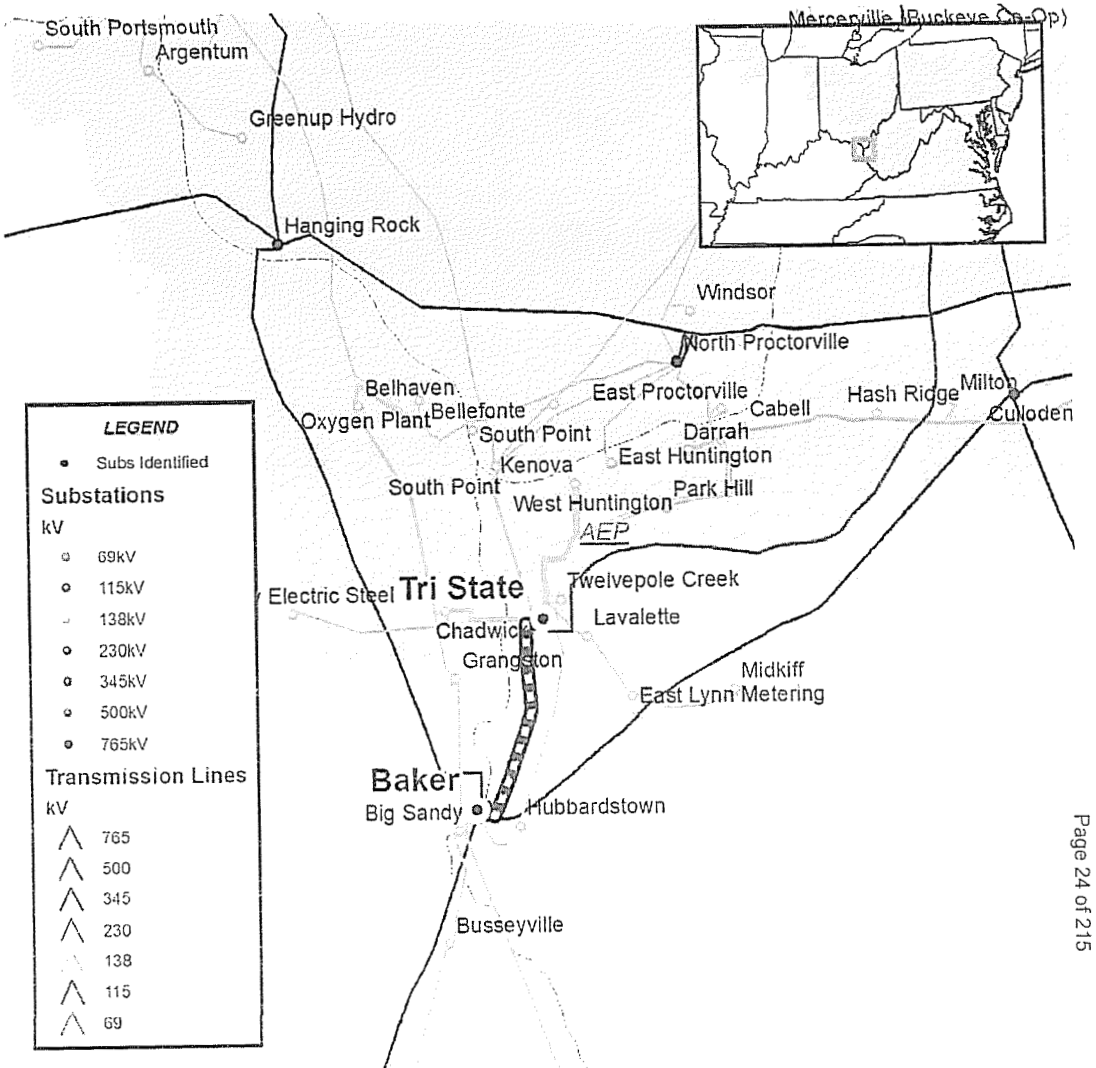
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Sullivan 765/345kV transformer #1 or #2 is overload for the loss of the other transformer coupled with the loss of Rockport – Jefferson 765kV line
- Recommended Solution:
  - Add a 3rd 2250 MVA 765/345 kV transformer at Sullivan station (B1465.1)
  - Replace the 100 MVAR 765 kV shunt reactor bank on Rockport – Jefferson 765 kV line with a 300 MVAR bank at Rockport Station (B1465.2)
  - Transpose the Rockport – Sullivan 765 kV line and also the Rockport – Jefferson 765 kV line (B1465.3)
  - Make switching improvements at Sullivan and Jefferson 765 kV stations (B1465.4)
- Estimated Project Cost: $100 M
- Expected IS Date: 6/1/2015



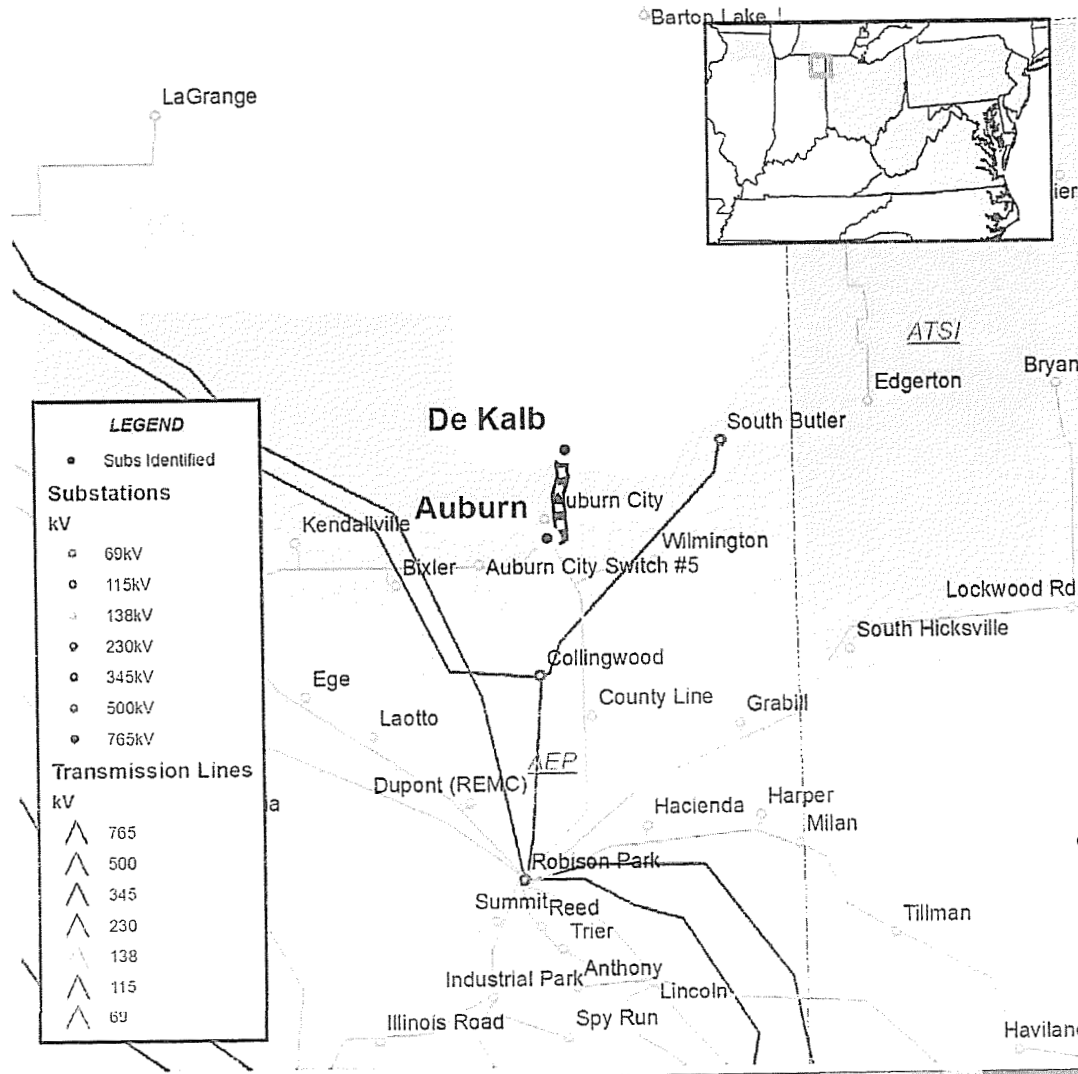
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Tristate 345/138 kV #1, Tristate 345/138 kV #2, Baker – Tristate 345 kV, Baker 345/138 kV And Other Lines are overloaded for various combination for single contingencies.
- Recommended Solution: Add an additional 765/345 kV transformer at Baker Station. (B1495)
- Estimated Project Cost: $ 46 M
- Expected IS Date: 6/1/2015



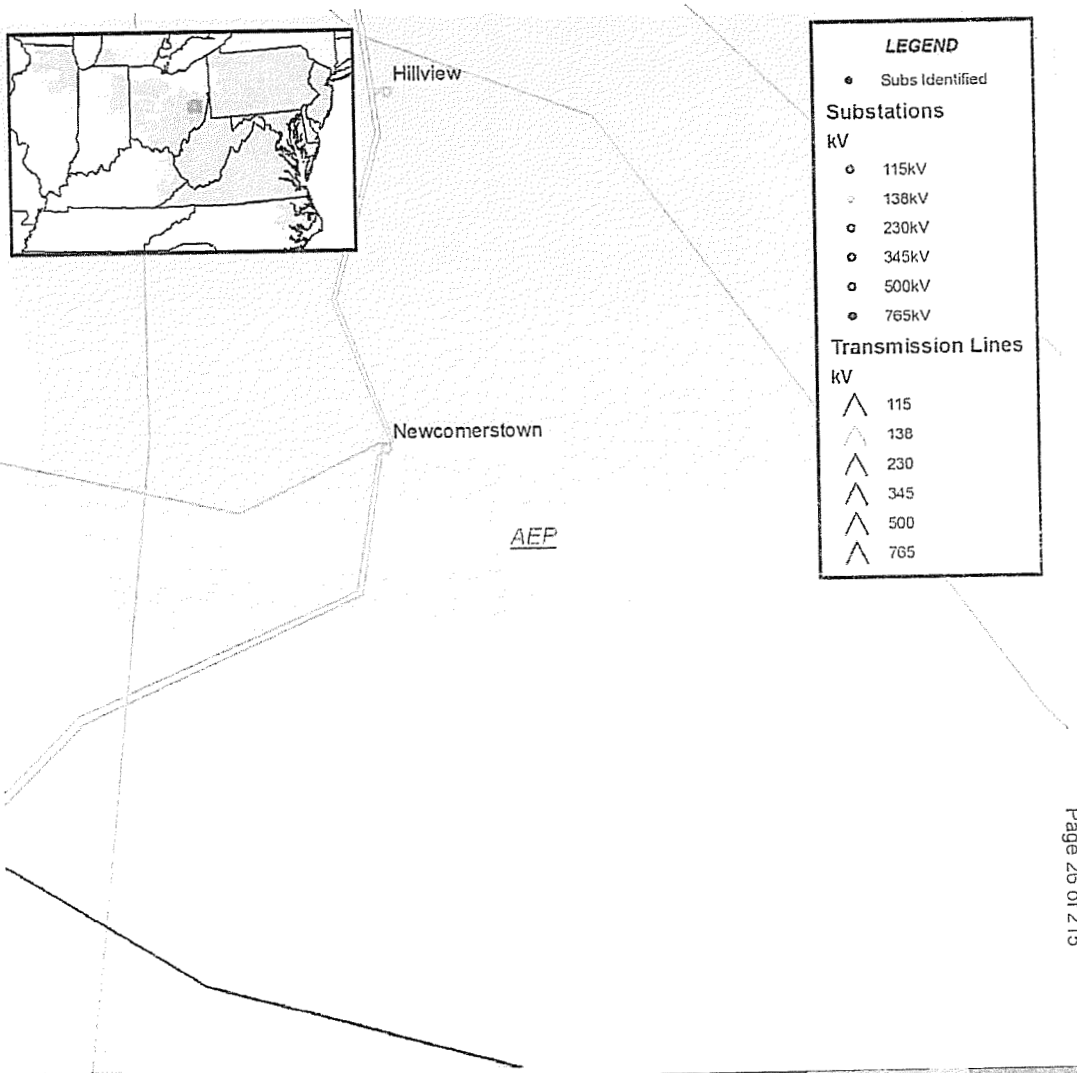
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Auburn - Dekalb Substation 138 kV line is overloaded for various N-1-1 combinations near Albion, Skinner, Bixler Tap, Auburn, and Kendallville
- Recommended Solution:
  - Establish a new 138/69 kV Butler Center station
  - Build a new 14 mile 138 kV line from Auburn station to Woods Road station VIA Butler Center station
  - Replace the existing 40 MVA 138/69 kV transformer at Auburn station with a 90 MVA 138/69 kV transformer
  - Improve the switching arrangement at Kendallville station
  - (B1490)
- Estimated Project Cost: $25 M
- Expected IS Date: 6/1/2015



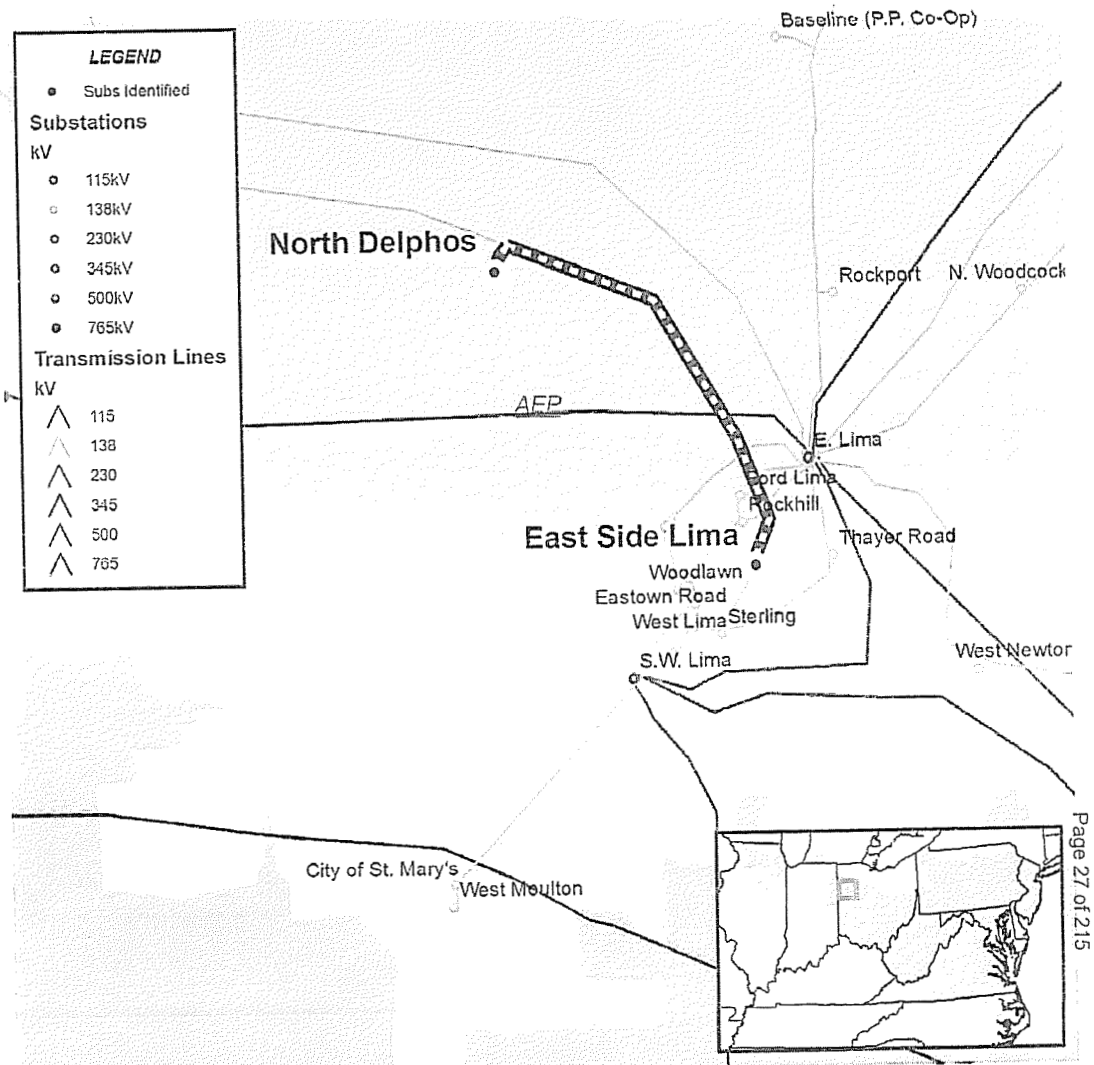
AEP Transmission Zone

- AEP Criteria Violation
- In the Cambridge, Ohio area, peak summer 2006 voltages on the 138 kV, 69 kV & 34.5 kV systems were down to 92%, 94%, & 86%, respectively; Critical single contingencies could result in loading 69 kV & 34.5 kV equipment as high as 138%, & 144%, respectively, and drop system voltages as low as 75%.
- Recommended Solution:
  - Conversion of the Newcomerstown – Cambridge 34.5 kV system to 69 kV operation
  - Expansion of the Derwent 69 kV Station (including reconfiguration of the 69 kV system)
  - Rebuild 11.8 miles of 69 kV line, and convert additional 34.5 kV stations to 69 kV operation
  - These improvements are necessary to improve normal & contingency system voltages, as well as equipment loadings, to acceptable levels for the 135 MW area load. (B1469)
- Estimated Project Cost: $23 M
- Expected IS Date: 12/1/2012



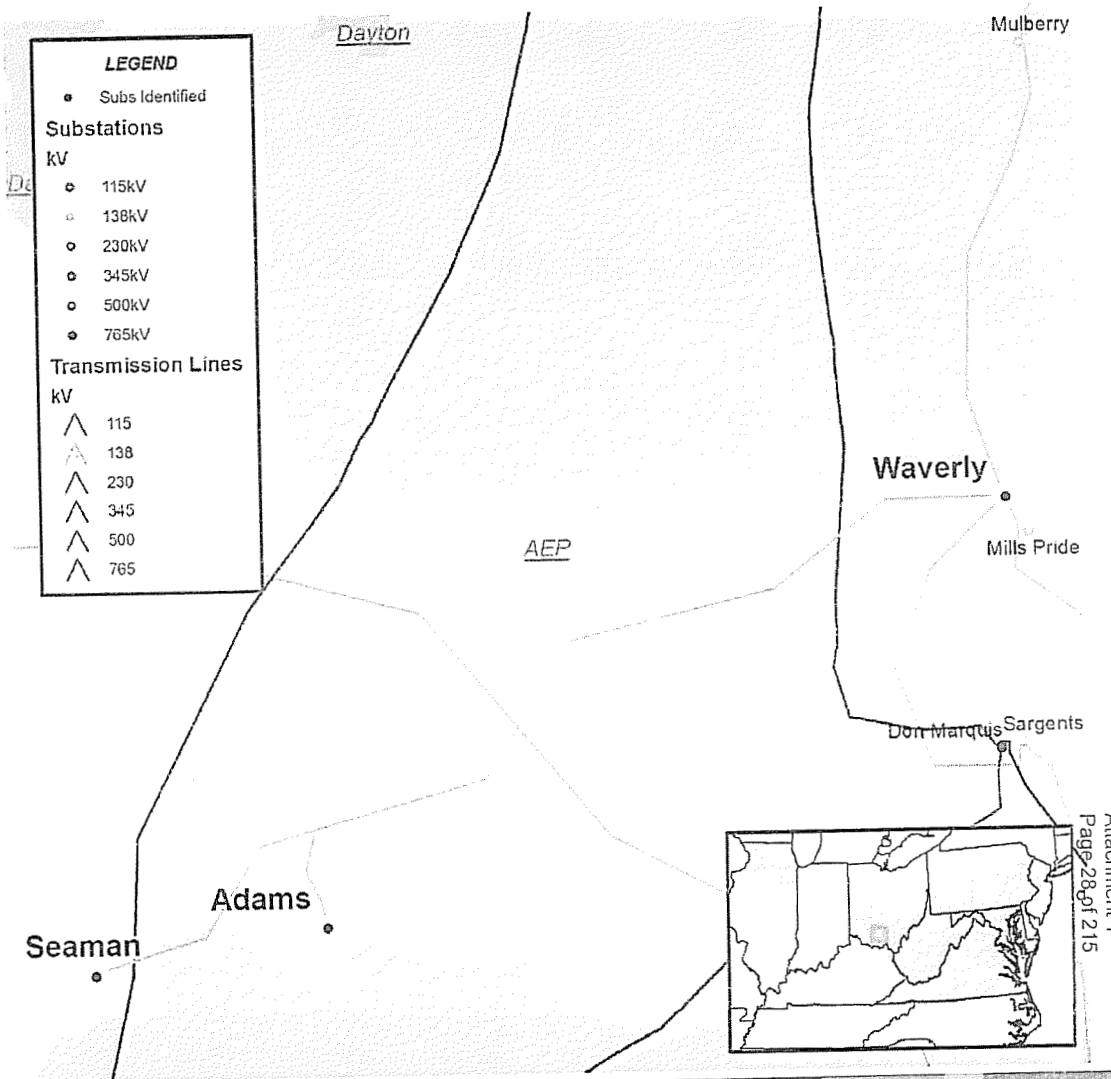
AEP Transmission Zone

- N-1-1 Thermal Violation
- The North Delphos – East Side Lima - Sterling138 kV line is overloaded for the loss of the Convoy - Robison Park 345 kV line and Robison Park 345/138 kV transformer and the loss of the East Lima - Haviland 138 kV line
- Recommended Solution:
  - Rebuild the entire 5.96 mile Lima – Sterling 138 kV line between Sterling and Rockhill stations
  - The new conductor will be 795 ACSR (Note that this is a revision to RTEP project B0570)
- Estimated Project Cost: $16.1 M
- Expected IS Date: 6/1/2012



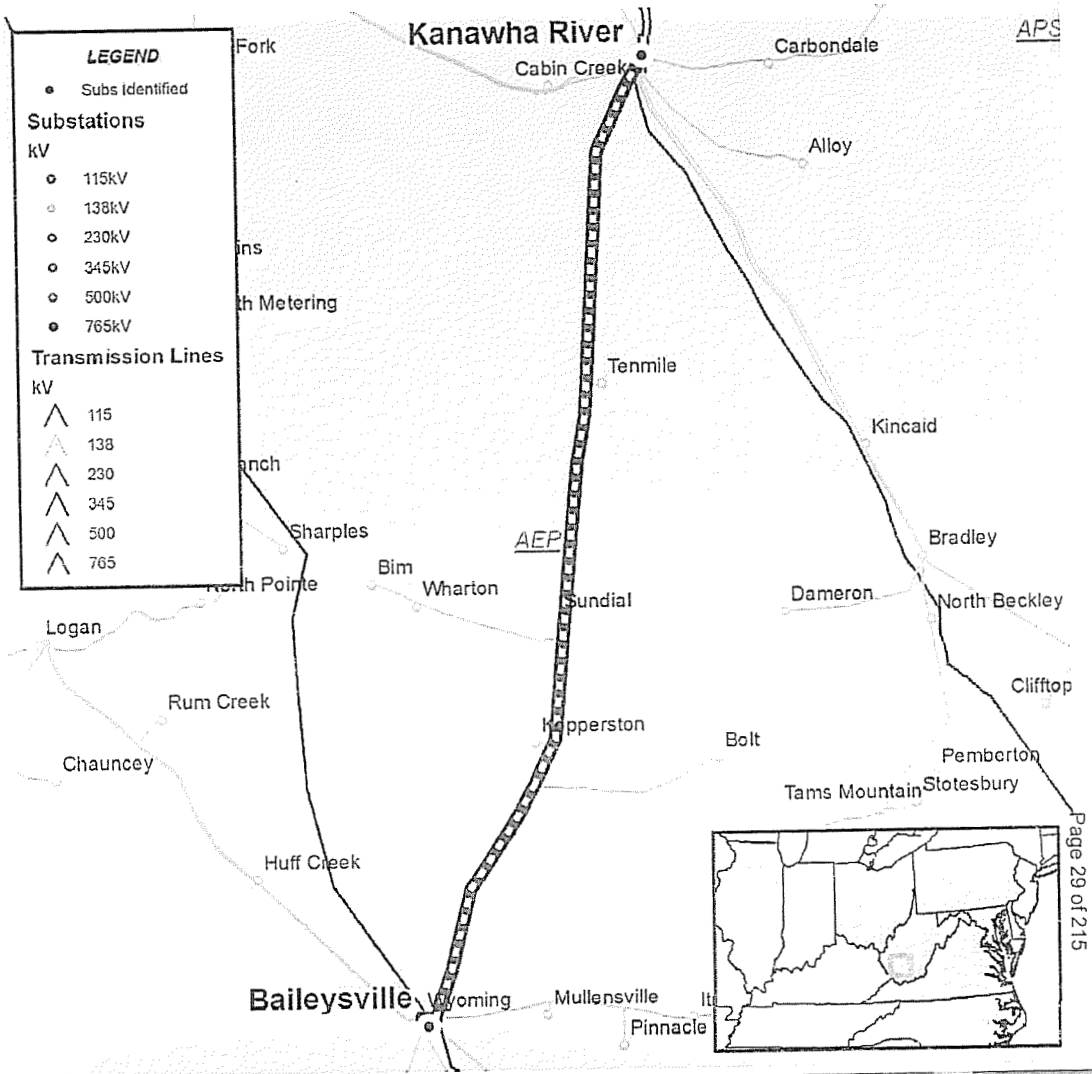
AEP Transmission Zone

- AEP Criteria Violation
- Low voltage Drop at the Seaman 69 kV bus for the loss of both 138/69 kV transformers at Seaman and Adams in addition to the Adams – Waverly 138 kV branch
- Recommended Solution:
  - Create an in and out loop at Adams Station by removing the hard tap that currently exists
  - Upgrade the Adams transformer to 90 MVA
  - At Seaman Station install a new 138 kV bus and two new 138 kV circuit breakers
  - Convert South Central Co-op's New Market 69 kV Station to 138 kV
  - The Seaman – Highland circuit is already built to 138 kV, but is currently operating at 69 kV, which would now increase to 138 kV
  - At Highland Station, install a new 138 kV bus, three new 138 kV circuit breakers and a new 138/69 kV 90 MVA transformer
  - Using one of the bays at Highland, build a 138 kV circuit from Hillsboro – Highland 138 kV, which is approximately 3 miles. (B1466)
- Estimated Project Cost: $13.5 M
- Expected IS Date: 6/1/2015



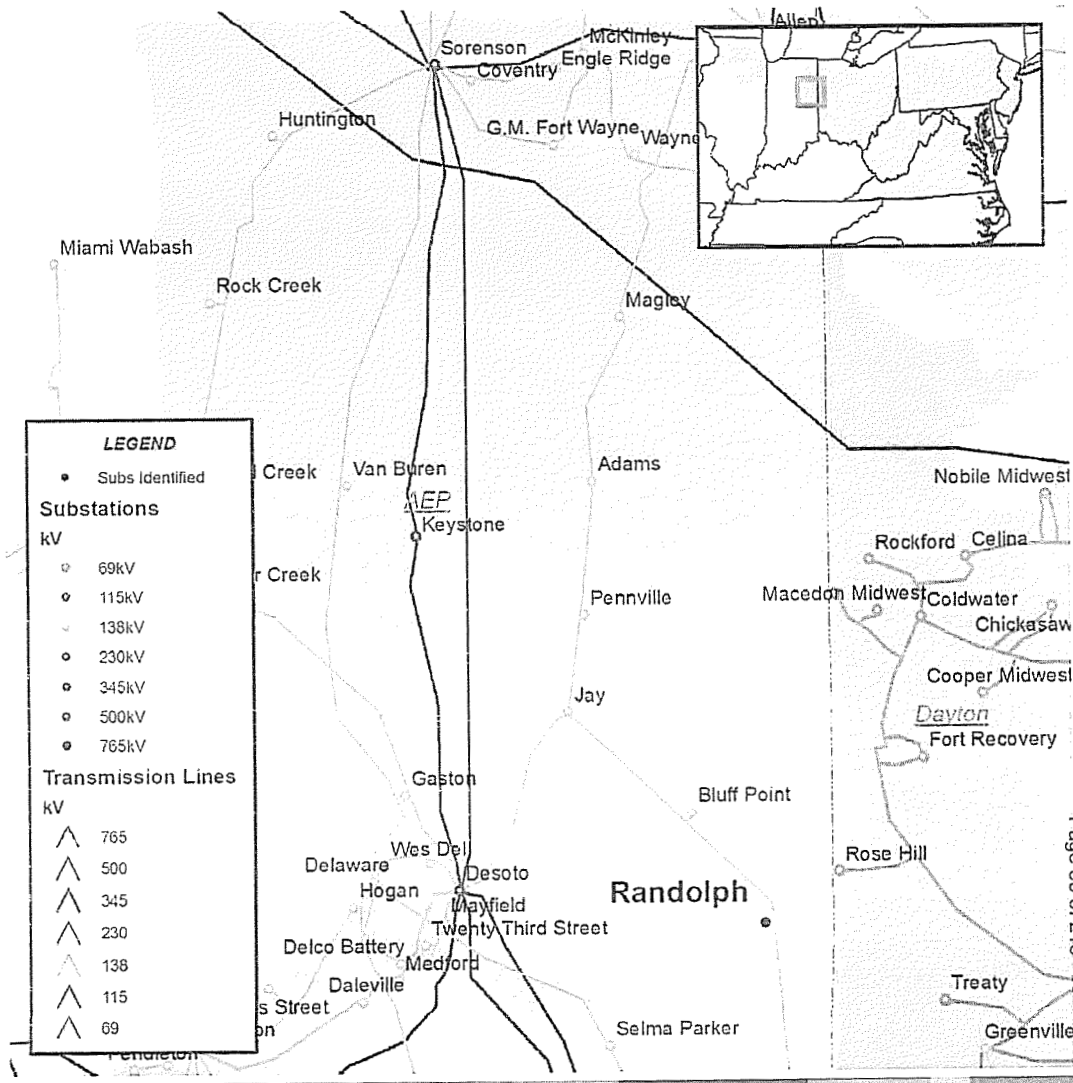
AEP Transmission Zone

- AEP Criteria Violation
- Thermal overloads to multiple 46 kV lines and low voltage issues in the area of Skin Fork for various single contingencies
- Recommended Solution:
  - Build a new 138 kV double circuit off the Kanawha – Baileysville #2 138 kV circuit to Skin Fork Station
  - Install a new 138/46 kV transformer at Skin Fork
  - Replace 5 Moab's on the Kanawha – Baileysville line with breakers at the Sundial 138 kV station (B1470)
- Estimated Project Cost: $8.5 M
- Expected IS Date: 6/1/2015



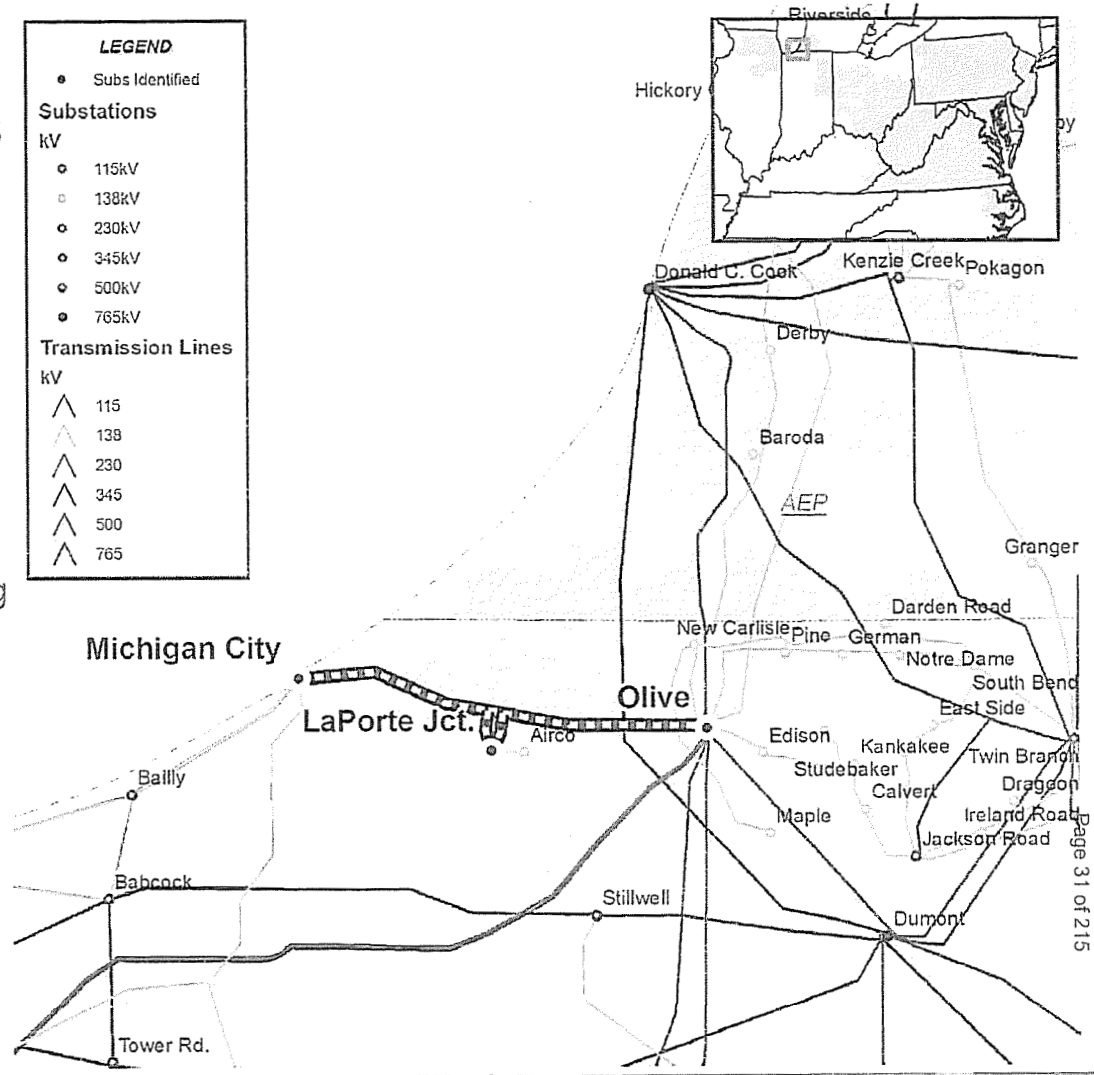
AEP Transmission Zone

- AEP Criteria Violation
- Low voltage violations on the Winchester, Price, and Anchor Hocking 69 kV buses for a fault on the Jay – College Corner circuit that opens the 138/69 kV transformer at Randolph station
- Recommended Solution:
  - Expand Selma Parker Station and install a 138/69/34.5 kV transformer
  - Rebuild and convert 34.5 kV line to Winchester to 69 kV, including Farmland Station
  - Retire the 34.5 kV line from Haymond to Selma Wire (B1468)
- Estimated Project Cost: $8 M
- Expected IS Date: 6/1/2015



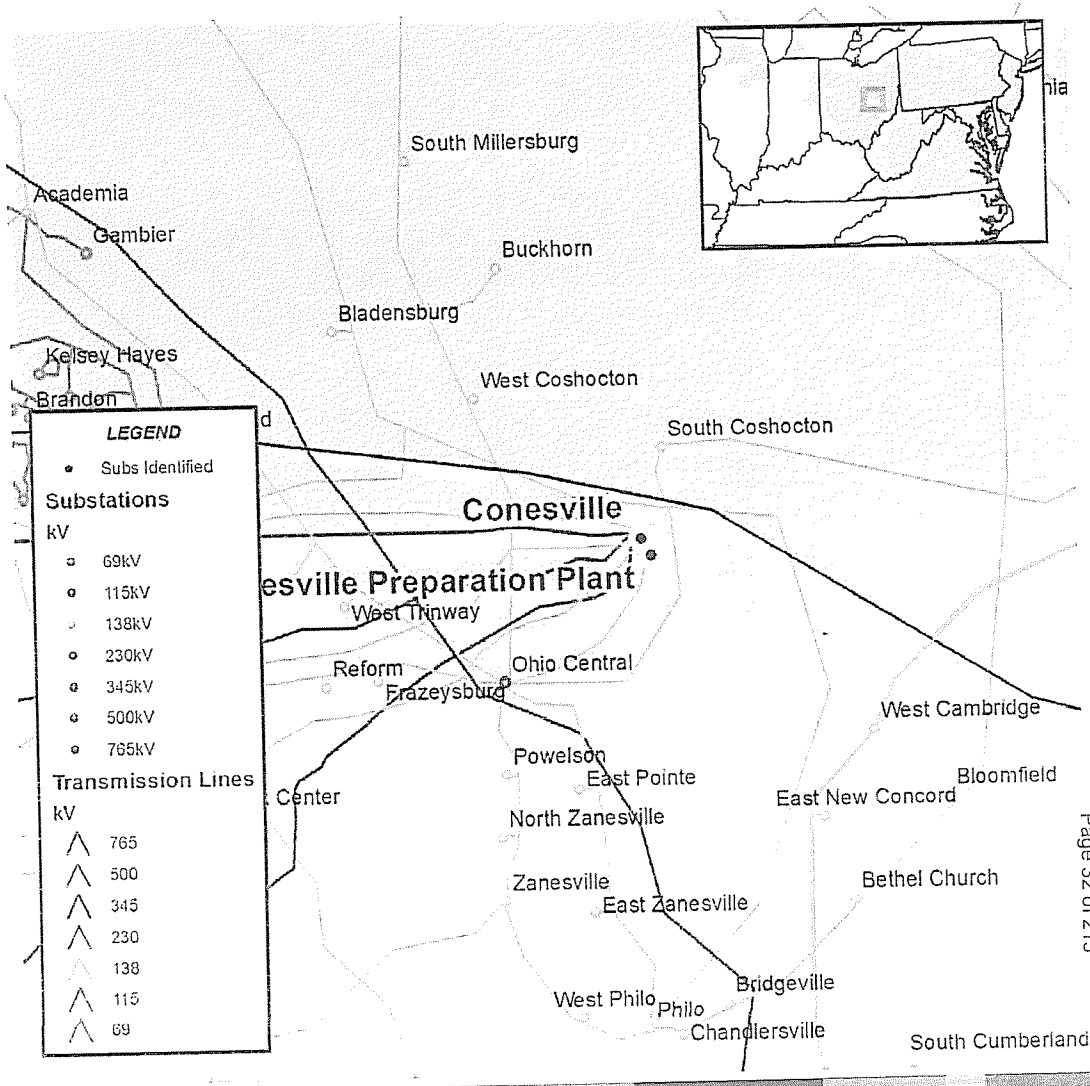
AEP Transmission Zone

- AEP Criteria Violation
- Depressed voltages and thermal overloads on the AEP 69 kV and 34.5 kV networks in the LaPorte, IN and New Buffalo, MI areas for the loss of the Olive – LaPorte – Michigan City 138 kV line
- Recommended Solution:
  - Install a 14.4 MVAr Capacitor Bank at New Buffalo station
  - Reconfigure the 138 kV bus at LaPorte Junction station to eliminate a contingency resulting in loss of two 138 kV sources serving the LaPorte area (B1467)
- Estimated Project Cost: $3 M
- Expected IS Date: 6/1/2015



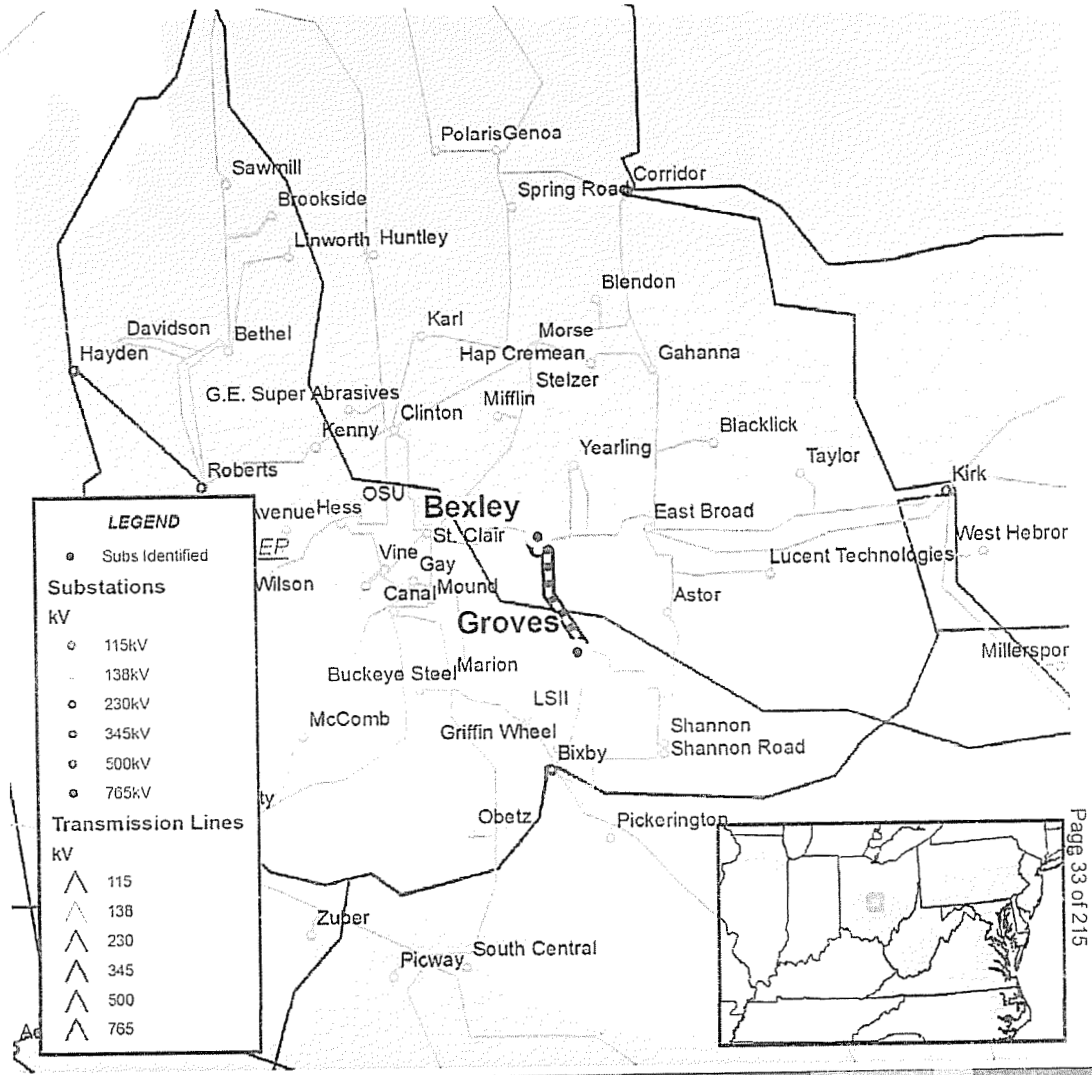
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Prep Plant Tap - Conesville East 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: Reconductor the Conesville East – Conesville Prep Plant Tap 138 kV section of the Conesville – Ohio Central to fix Reliability N-1-1 thermal overloads (B1502)
- Estimated Project Cost: $2 M
- Expected IS Date: 6/1/2015



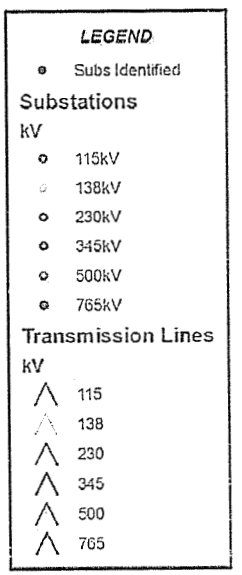
AEP Transmission Zone

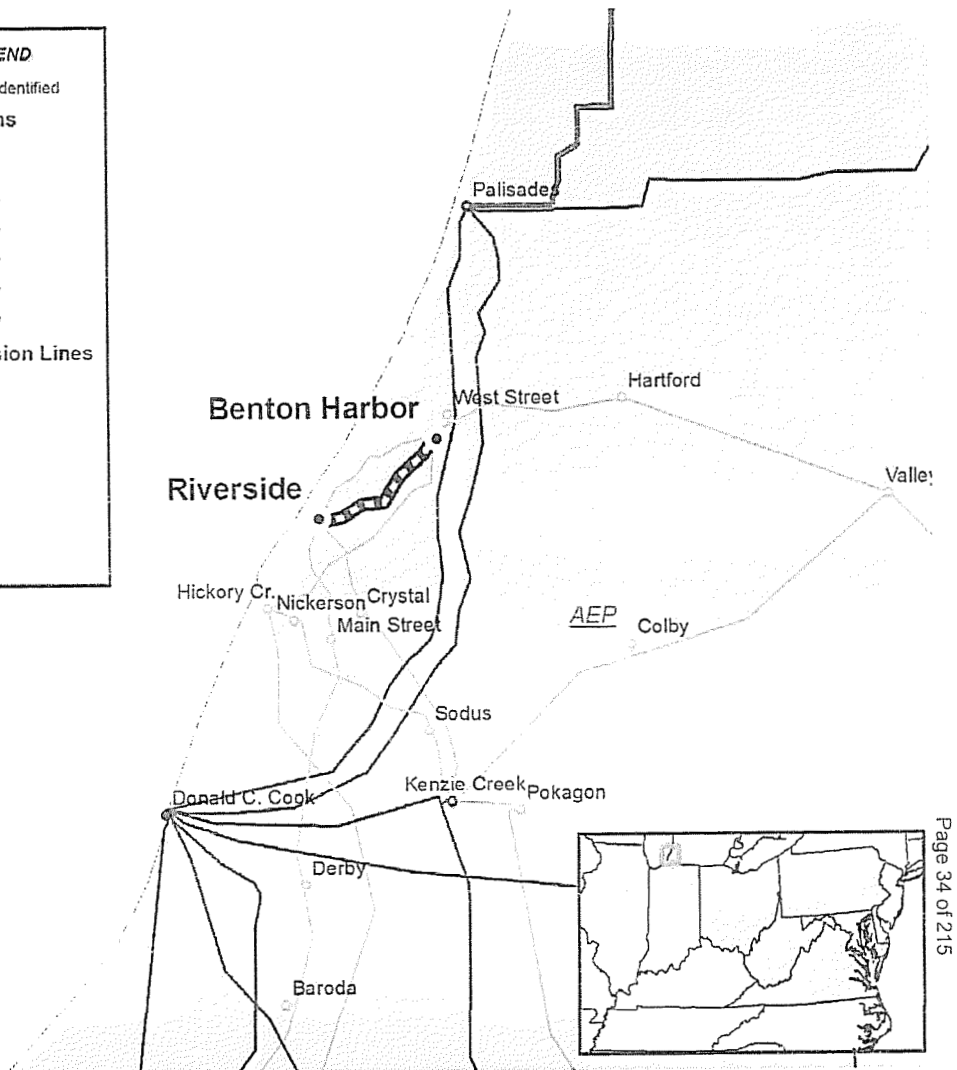
- N-1-1 Thermal Violation
- The Bexley – Groves 138 kV line is overloaded for the loss of Kirk – Taylor 138 kV line and the loading cannot be adjusted below normal rating through re-dispatch
- Recommended Solution: Reconductor the Bexley – Groves 138 kV circuit (B1463)
- Estimated Project Cost: $2.9 M
- Expected IS Date: 6/1/2015



AEP Transmission Zone

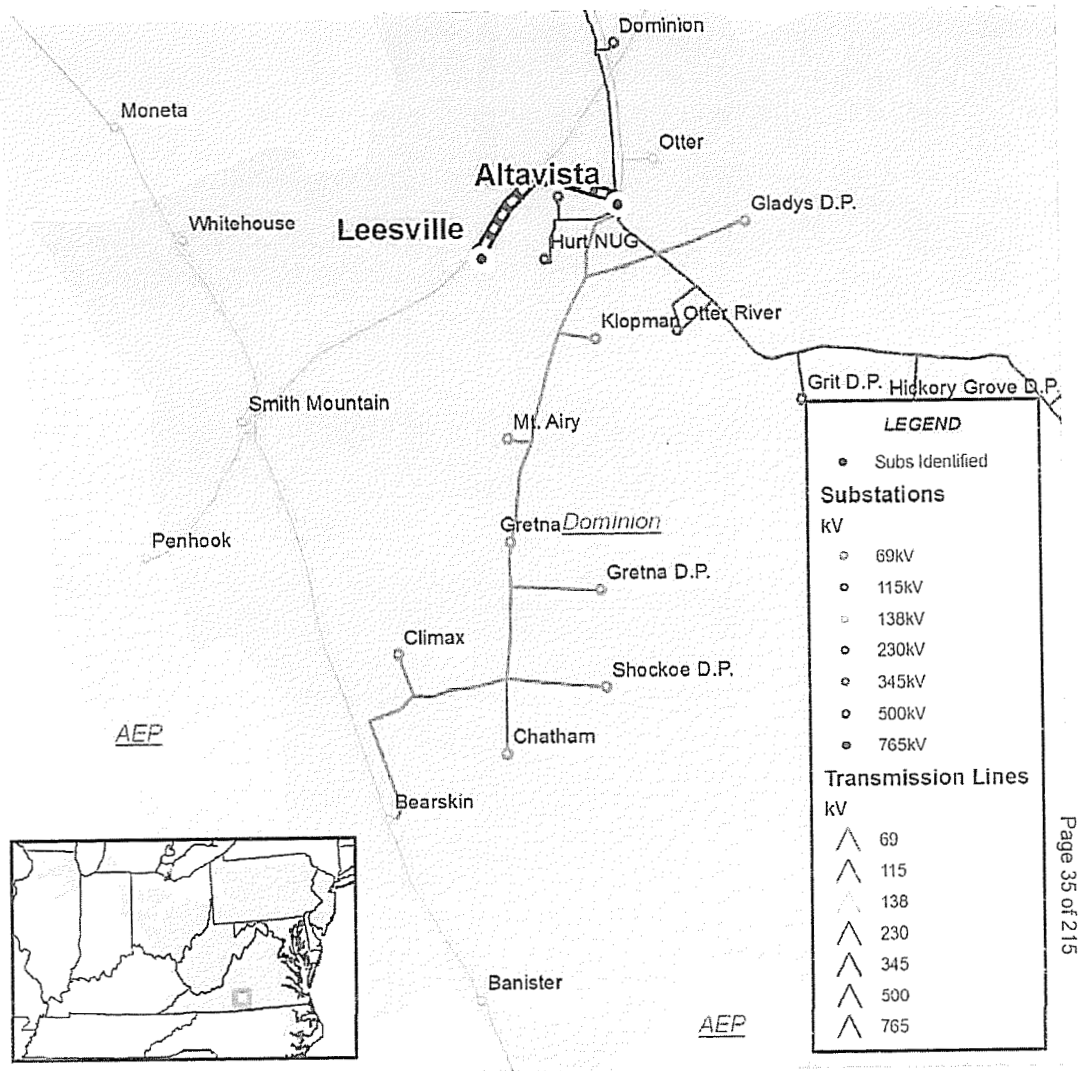
- N-1-1 Thermal Violation
- The Riverside – Benton Harbor 138 kV #1 line is overloaded for the loss of the Riverside – Benton Harbor – West Street – Hartford 138 kV line combined with the loss of Kenzie Creek 345/138 kV transformer overloads
- Recommended Solution: Install a new 138 kV circuit breaker at Benton Harbor station and move the load from Watervliet 34.5 kV station to West street 138 kV station (B1430)
- Estimated Project Cost: $1.5 M
- Expected IS Date: 6/1/2015





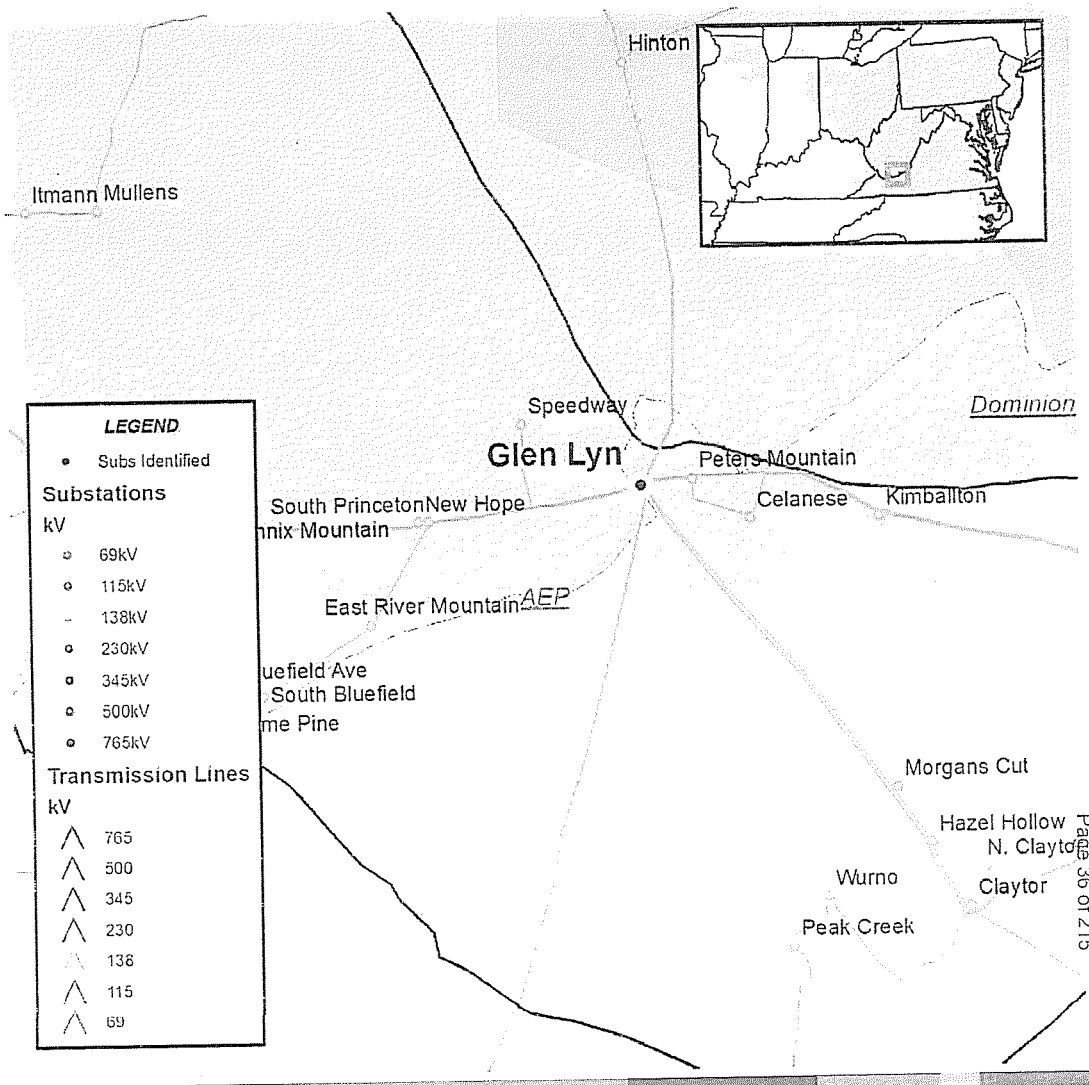
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Leesville - Altavista 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: Replace 138 kV bus and risers at Leesville Station (B1497)
- Estimated Project Cost: $0.6 M
- Expected IS Date: 6/1/2015



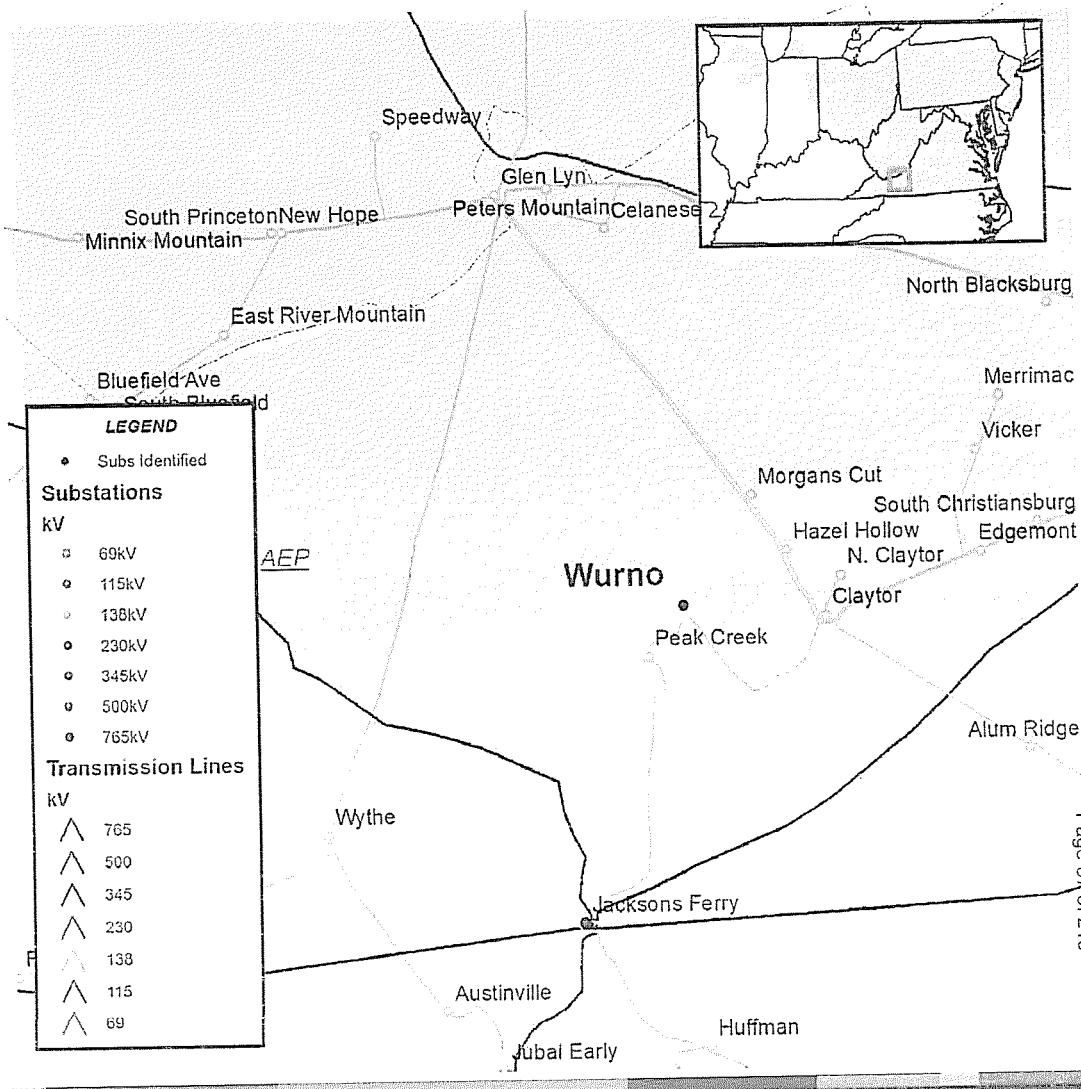
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Glen Lyn - U2-051 Tap 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: Reconductor 0.64 miles of the Glen Lyn – Wythe 138kV line with 3-1590 ACSR (B1492)
- Estimated Project Cost: $0.7 M
- Expected IS Date: 6/1/2015



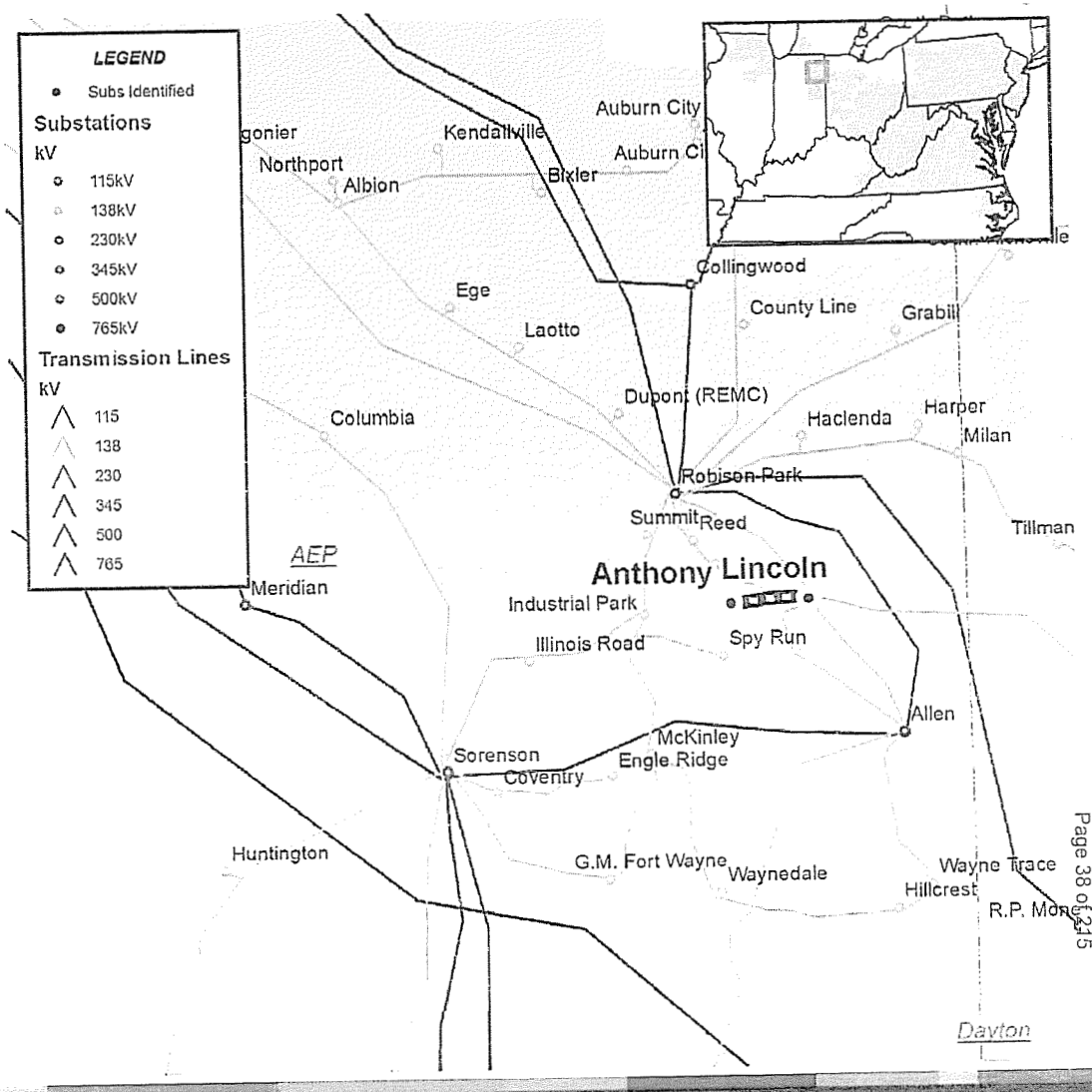
AEP Transmission Zone

- N-1-1 Thermal Violation
- The West Glow - Wurno 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: Replace 138 kV risers at Wurno Station (B1498)
- Estimated Project Cost: $0.15 M
- Expected IS Date: 6/1/2015



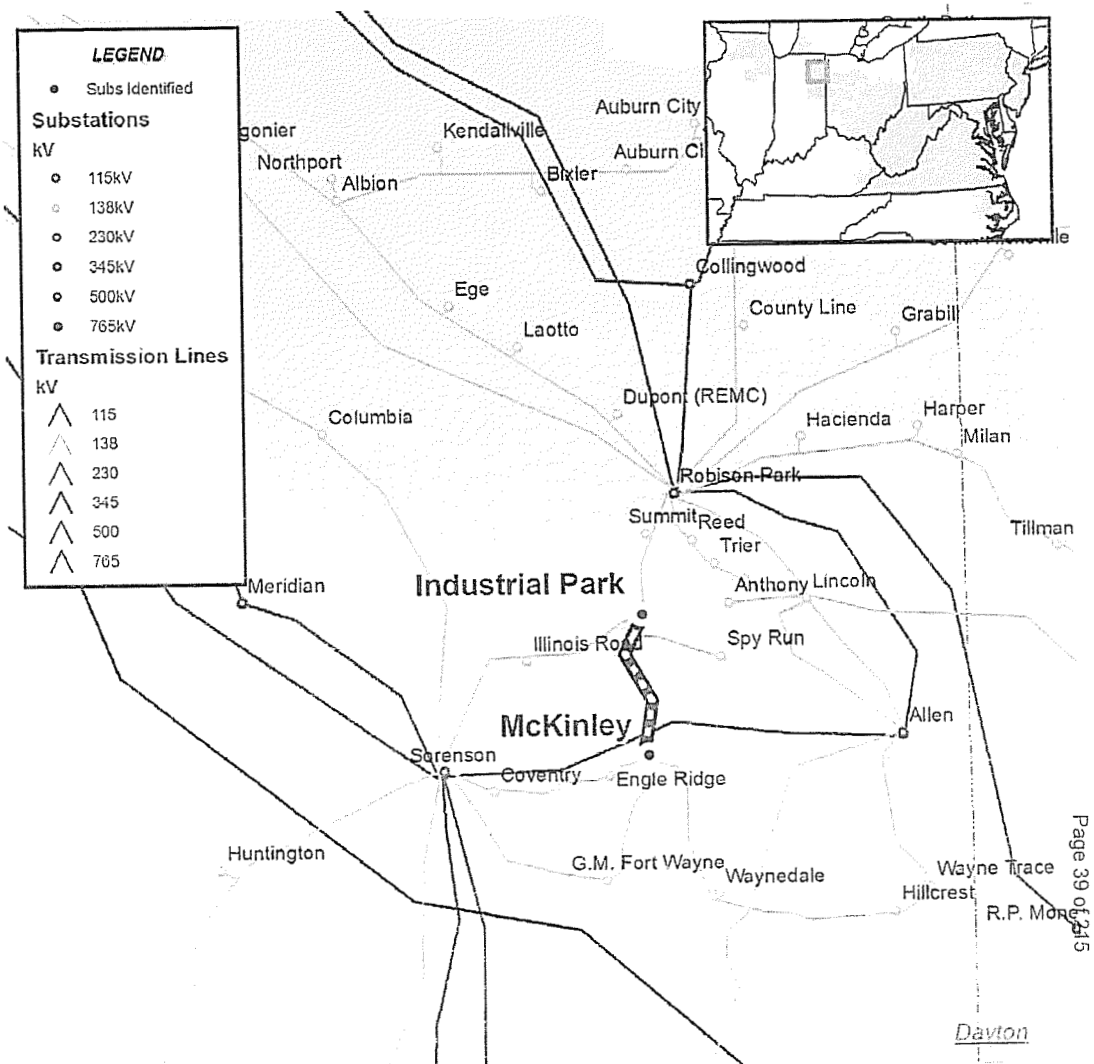
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Anthony – Lincoln 138 kV line is overload for the loss of the Illinois Road - Industrial Park – Summit - Wallen - Robison Park 138 kV line and the loss of Robison Park 345/138 kV transformer
- Recommended Solution: By replacing the breaker at Lincoln the Summer Emergency rating will improve to 251 MVA (B1440)
- Estimated Project Cost: $0.55 M
- Expected IS Date: 6/1/2015



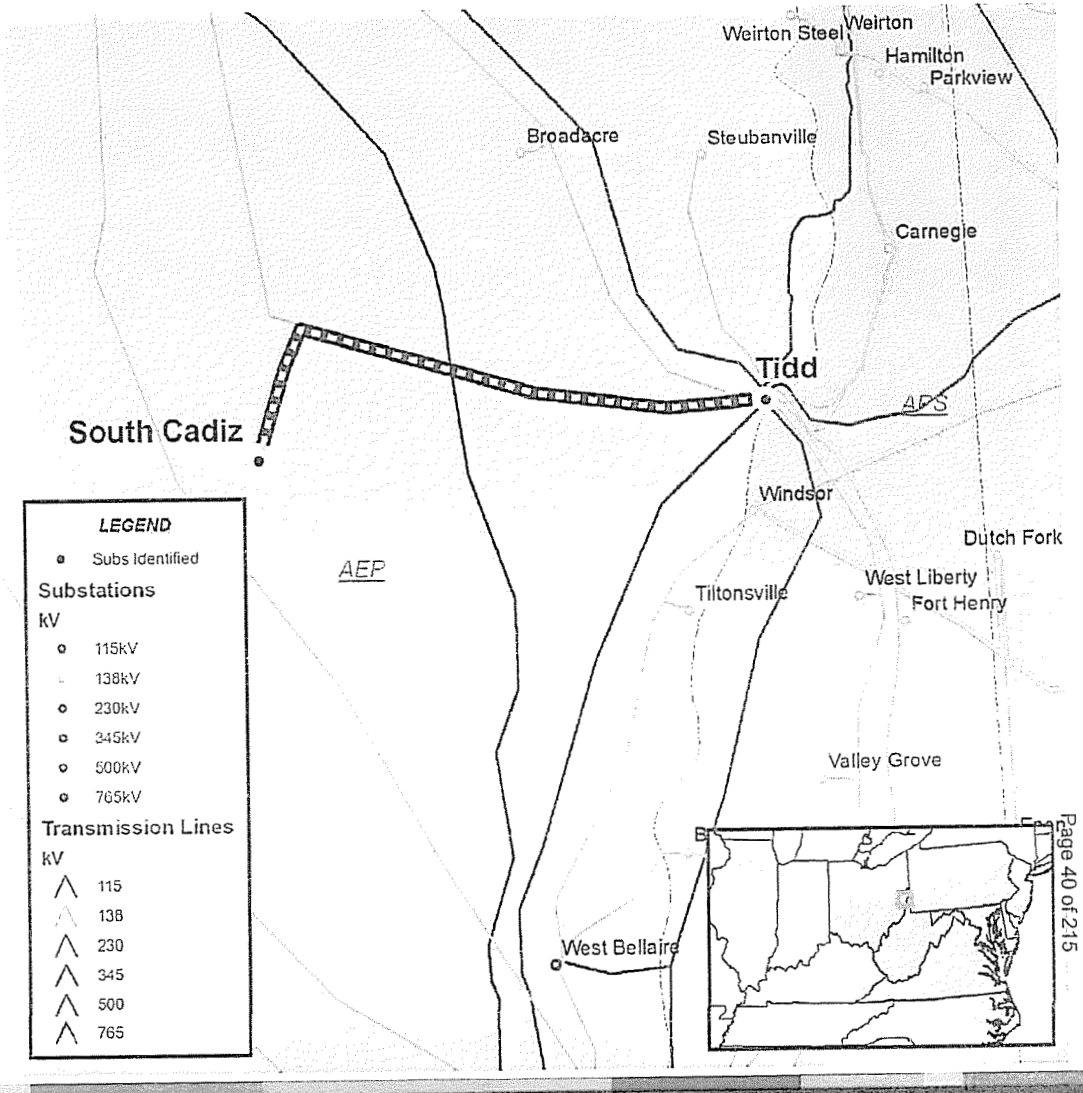
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Industrial Park – McKinley 138 kV line is overloaded for the loss of Robison Park 345/138 kV transformer and the loss of the Sorenson - Illinois Road - Industrial Park 138 kV line
- Recommended Solution: Replacement of risers at McKinley and Industrial Park stations and performance of a sag study for the 4.53 miles of 795 ACSR section is expected to improve the Summer Emergency rating to 302 MVA (B1438)
- Estimated Project Cost: $0.15 M
- Expected IS Date: 6/1/2015



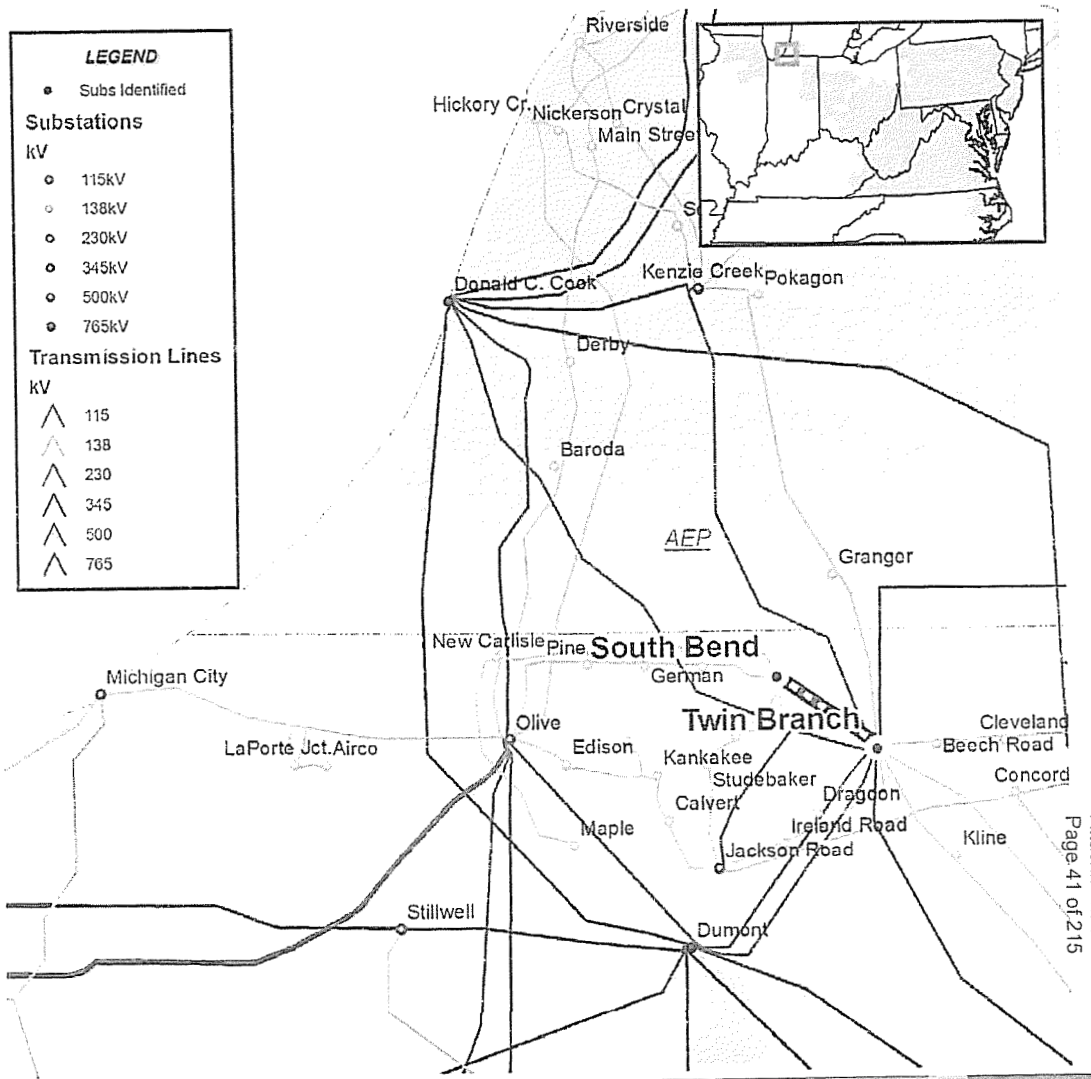
AEP Transmission Zone

- N-1-1 Thermal Violation
- The South Cadiz Tap - Tidd 138 kV line is overloaded for the loss of the Tidd - Broadacre - East Amsterdam - Malvern – Wagenhals 138 kV line and the loss of the Kammer - South Canton 765 kV line
- Recommended Solution: Replace relays at both South Cadiz 138 kV and Tidd 138 kV (B1462)
- Estimated Project Cost: $0.5 M
- Expected IS Date: 6/1/2015



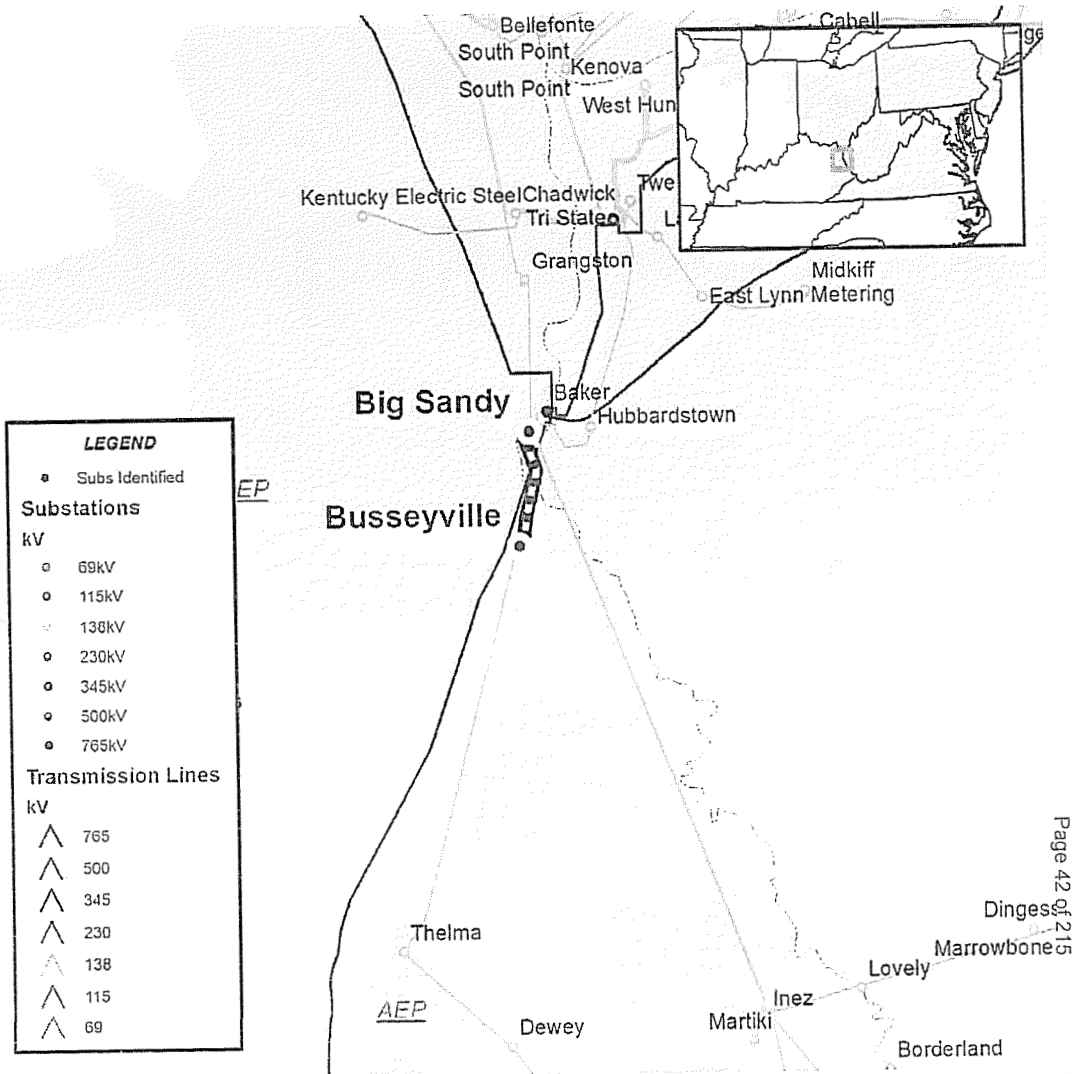
AEP Transmission Zone

- N-1-1 Thermal Violation
- The South Bend – Twin Branch 138 kV line is overloaded for the loss of Olive 345/138 kV transformer and the Laporte – Olive 138 kV line and the loss of Jacksons Road 345/138 kV transformer or the loss of Jacksons Road 345/138 kV transformer and the loss of Olive 345/138 kV transformer and the Laporte – Olive 138 kV line
- Recommended Solution: Replacement of 954 ACSR conductor with 1033 ACSR and performance of a sag study for the 4.54 miles of 2-636 ACSR section is expected to improve the Summer Emergency rating to 393 MVA (B1442)
  - Estimated Project Cost: $0.5 M
  - Estimated IS Date: 12/31/2011



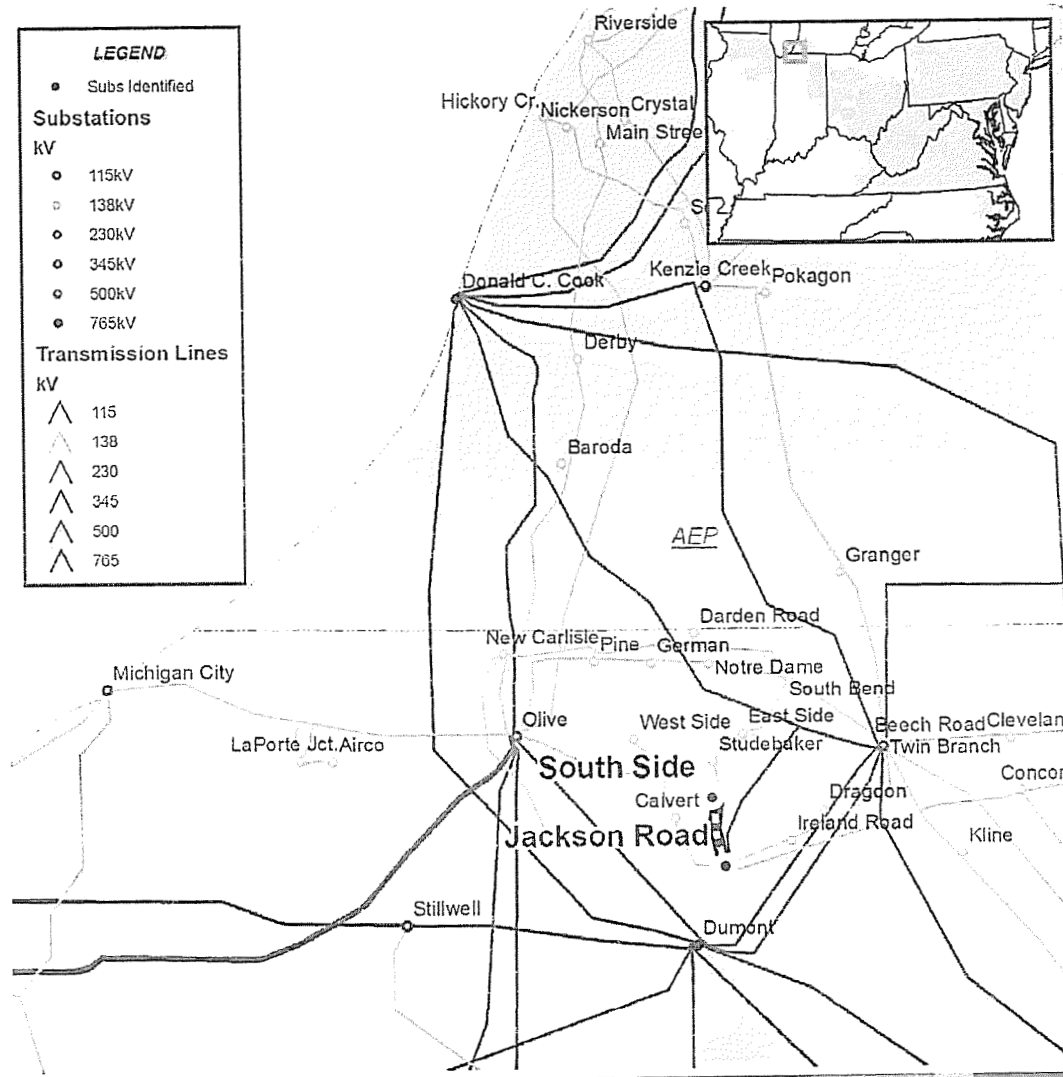
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Big Sandy - Busseyville 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: Replace bus and risers at Thelma and Busseyville stations and perform a sag study for the Big Sandy – Busseyville 138 kV line (B1491)
- Estimated Project Cost: $0.65 M
- Expected IS Date: 12/31/2013



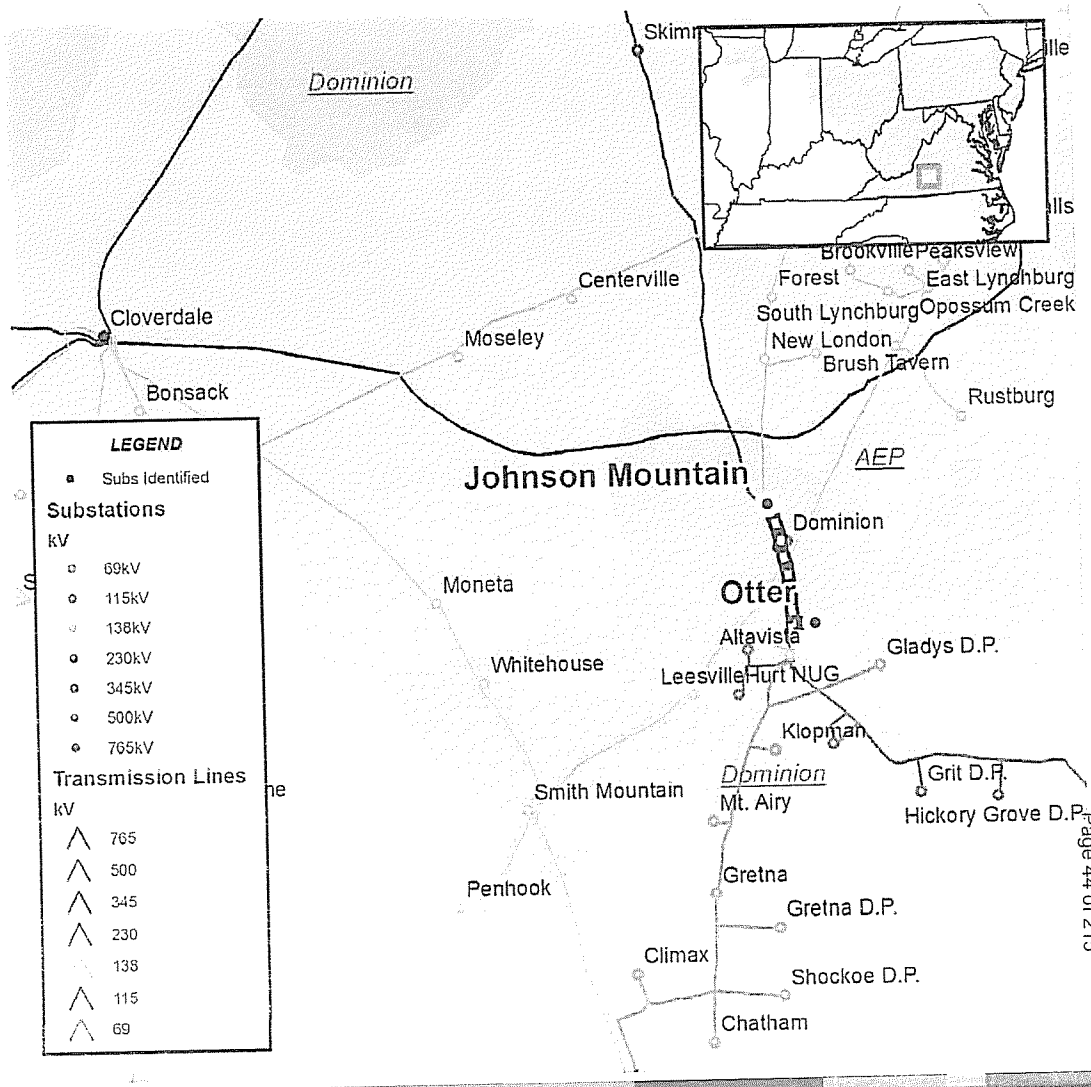
AEP Transmission Zone

- N-1-1 Thermal Violation
- The South Side – Jackson Road 138 kV line is overloaded for various N-1-1 contingency combinations at Olive, Laporte, South Bend, and Twin Branch
- Recommended Solution: Replacement of risers at South Side and performance of a sag study for the 1.91 miles of 795 ACSR section is expected to improve the Summer Emergency rating to 335 MVA (B1441)
- Estimated Project Cost: $0.3 M
- Expected IS Date: 12/31/2011



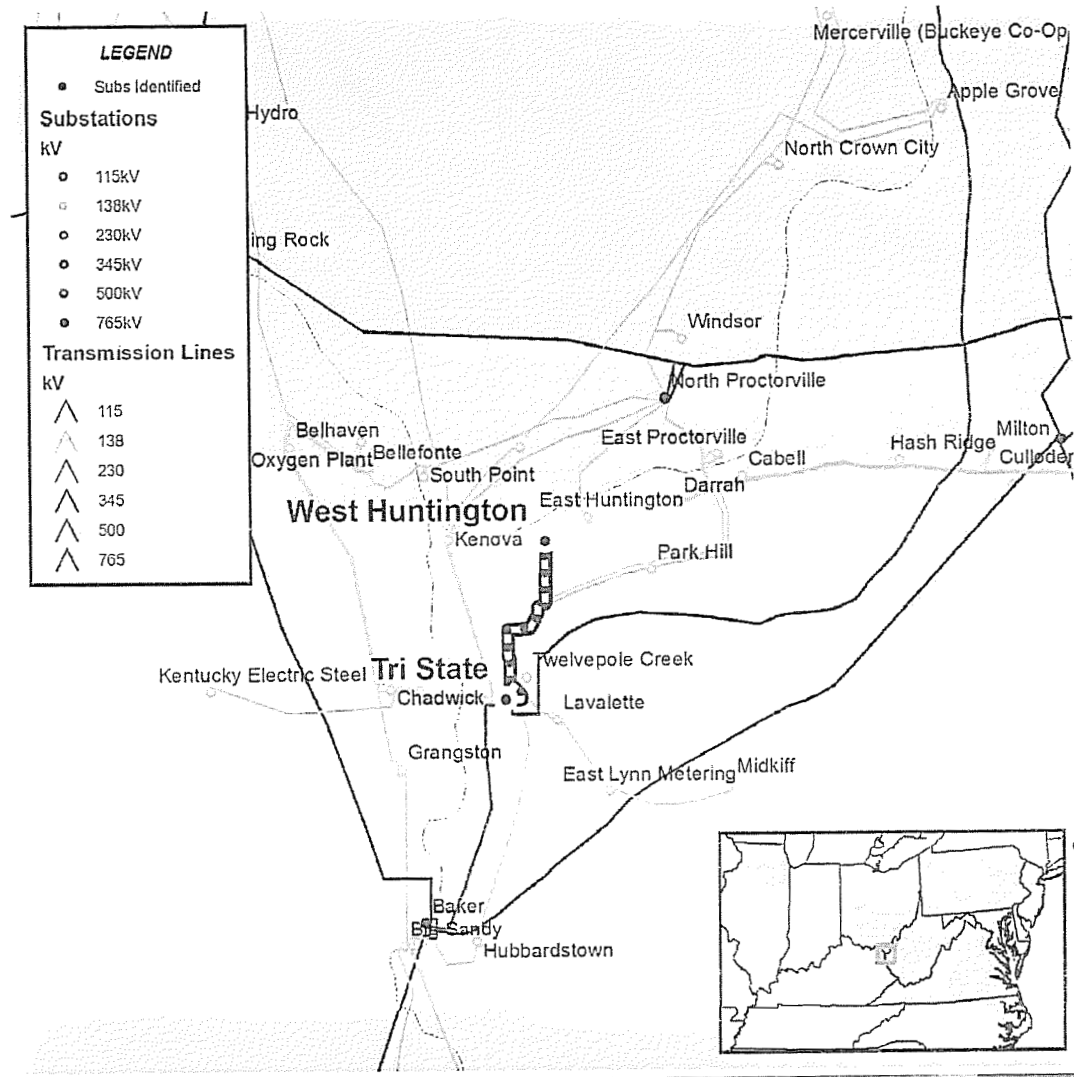
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Johnson Mountain - Otter 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: Replace 138 kV bus and risers at Johnson Mountain Station (B1496)
- Estimated Project Cost: $0.6 M
- Expected IS Date: 6/1/2015



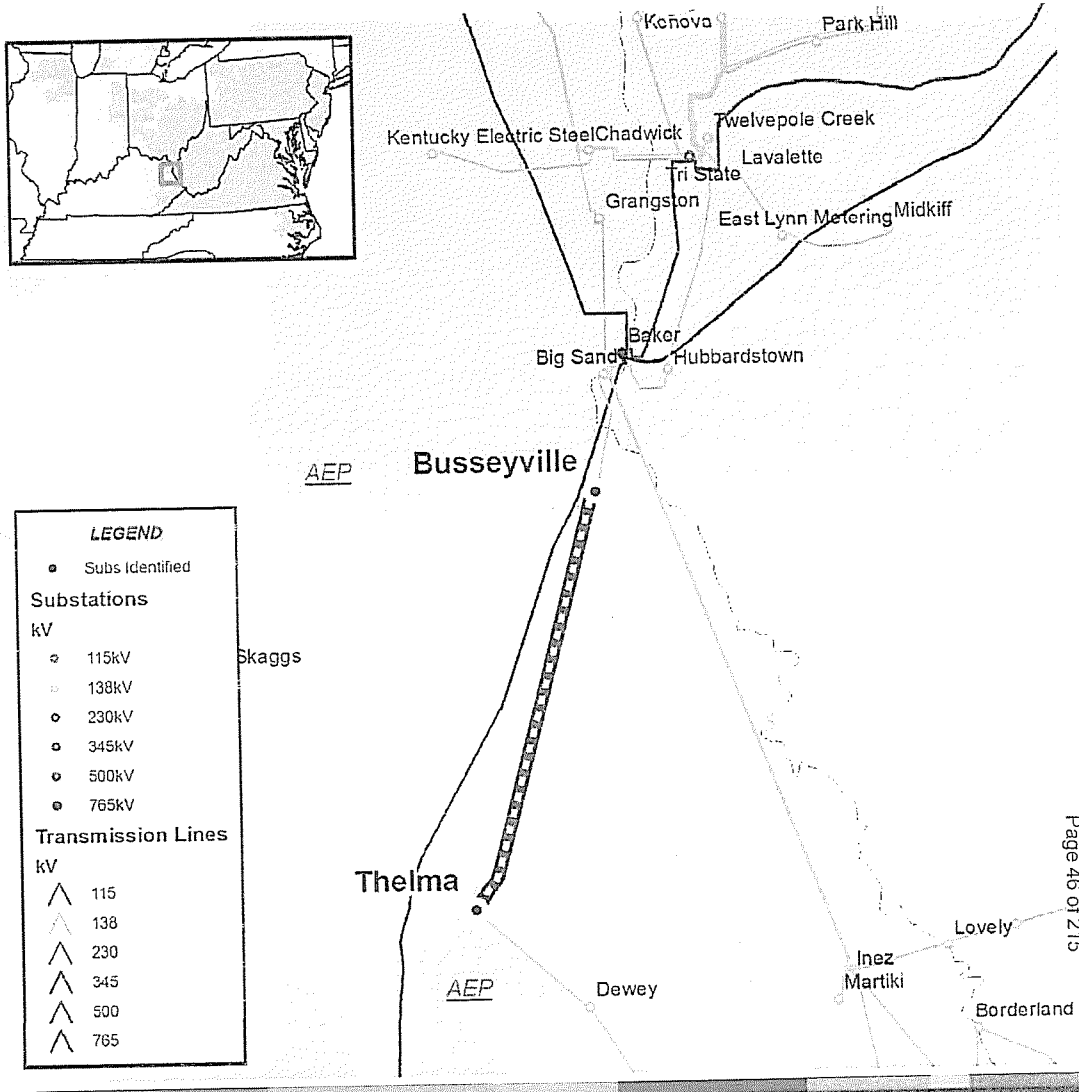
AEP Transmission Zone

- Baseline Thermal Violation
- The West Huntington – Tri State 138 kV line is overloaded for the Baker – Hanging Rock 765 kV line fault with the stuck breaker at Baker
- Recommended Solution: Replace risers in the West Huntington Station to increase the line ratings which would eliminate the overloads for the contingencies listed (B1433)
- Estimated Project Cost: $0.1 M
- Expected IS Date: 6/1/2015



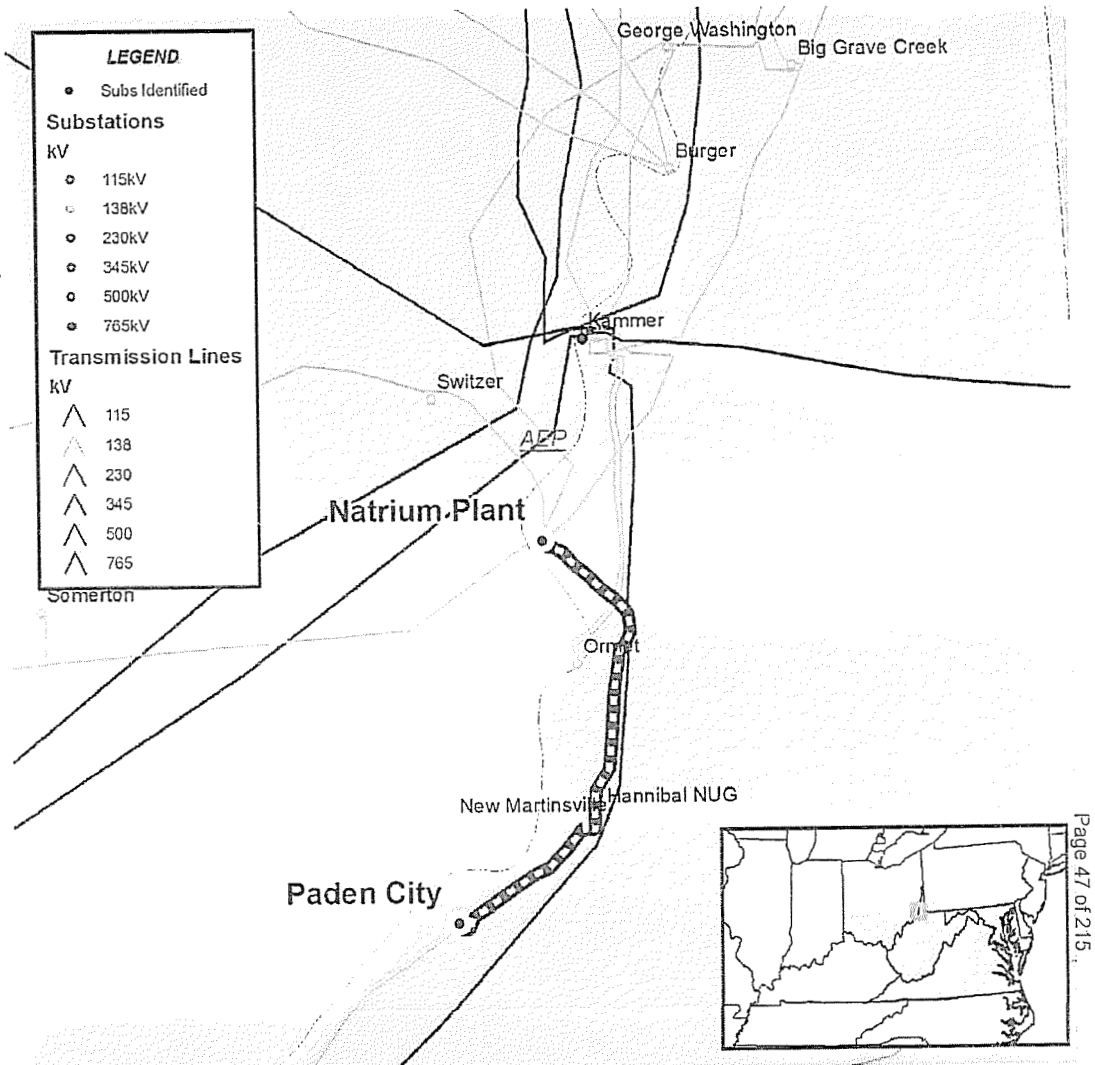
AEP Transmission Zone

- Baseline Thermal Violation
- The Busseyville – Thelma 138 kV line is overloaded for the fault of the Baker – BroadFord 765 kV line with stuck breaker at Baker
- Recommended Solution: Station work at Thelma and Busseyville Stations will be performed to replace bus and risers (B1443)
- Estimated Project Cost: $0.2 M
- Expected IS Date: 6/1/2015



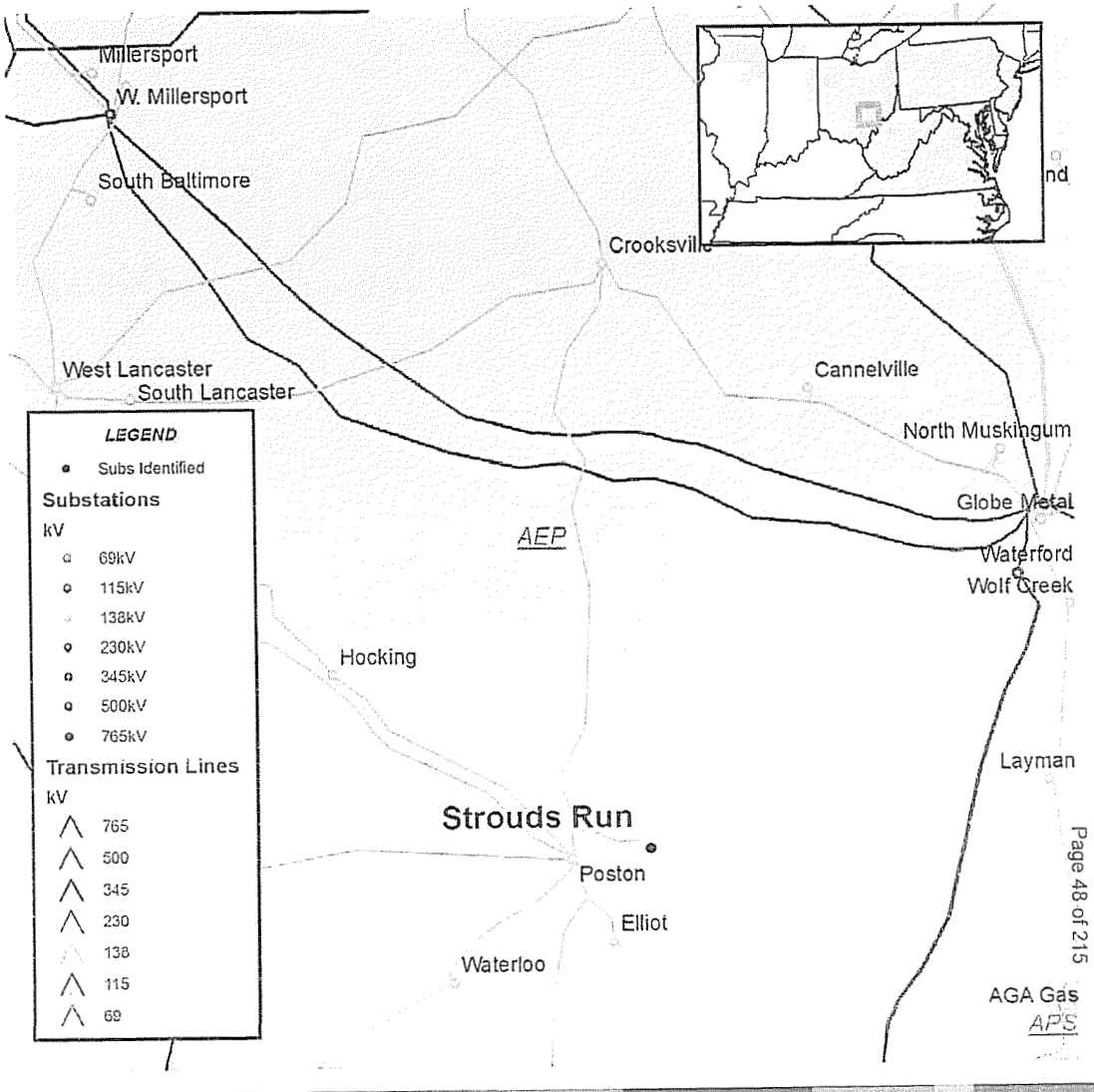
AEP Transmission Zone

- N-1-1 Thermal Violation
- Natrium – PadenCity (AP) 138 kV (AKA the Natrium – North Martin138 kV) line is overloaded for the loss of the Kammer – Belmont – Mountaineer 765 kV line and the loss of the Belmont – Harrison 500 kV line
- Recommended Solution: Replace meter, metering CTs and associated equipment at the Paden City feeder (B1461)
- Estimated Project Cost: $0.4 M
- Expected IS Date: 6/1/2015



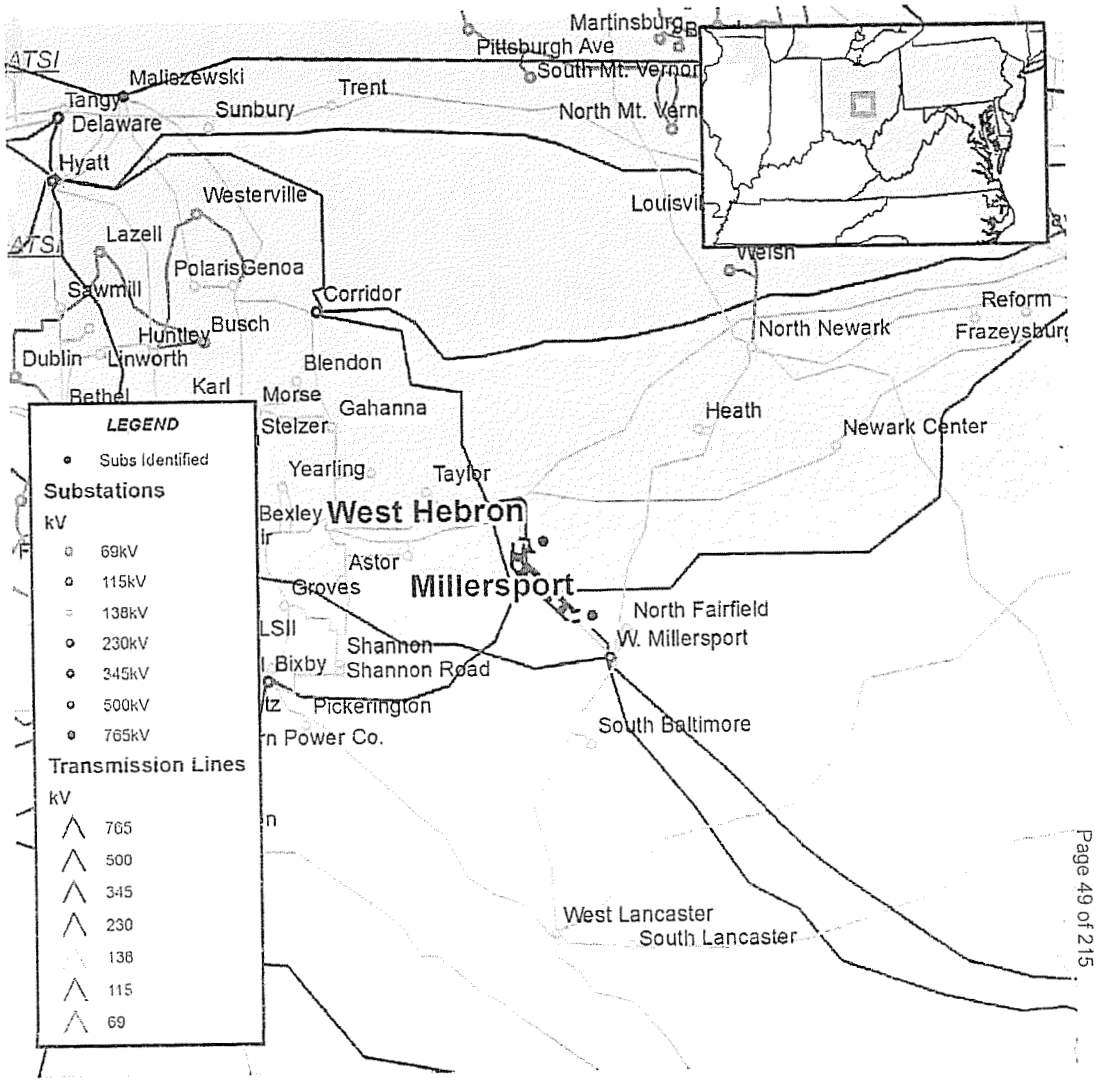
AEP Transmission Zone

- Generation Deliverability Violation
- The Strouds - Strouds Run 138 kV line is overloaded for the loss of the Dexter - Elliot Tap 138 kV line, Elliot Tap - Elliot 138 kV line, and Elliot Tap - Poston 138 kV line
- Recommended Solution: Upgrade Strouds Run – Strouds Tap 138 kV relay and riser (B1478)
- Estimated Project Cost: $0.055 M
- Expected IS Date: 6/1/2015



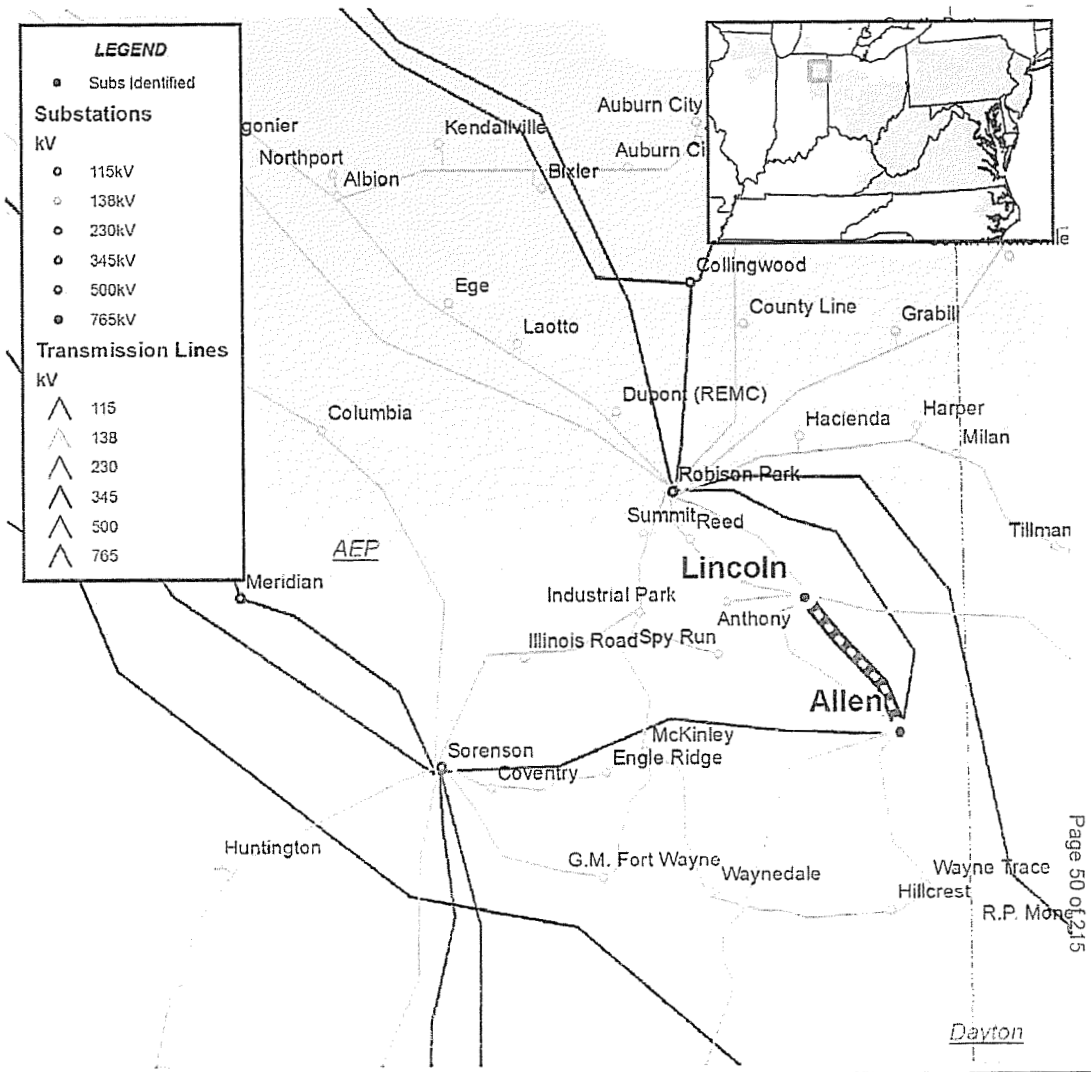
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Millersport - West Hebron 138 kV line is overloaded for the loss of the Hyatt - West Millersport 345 kV line and the loss of Kirk-West Millersport 345 kV line
- Recommended Solution: West Hebron station upgrades (B1479)
- Estimated Project Cost: $0.05 M
- Expected IS Date: 6/1/2015



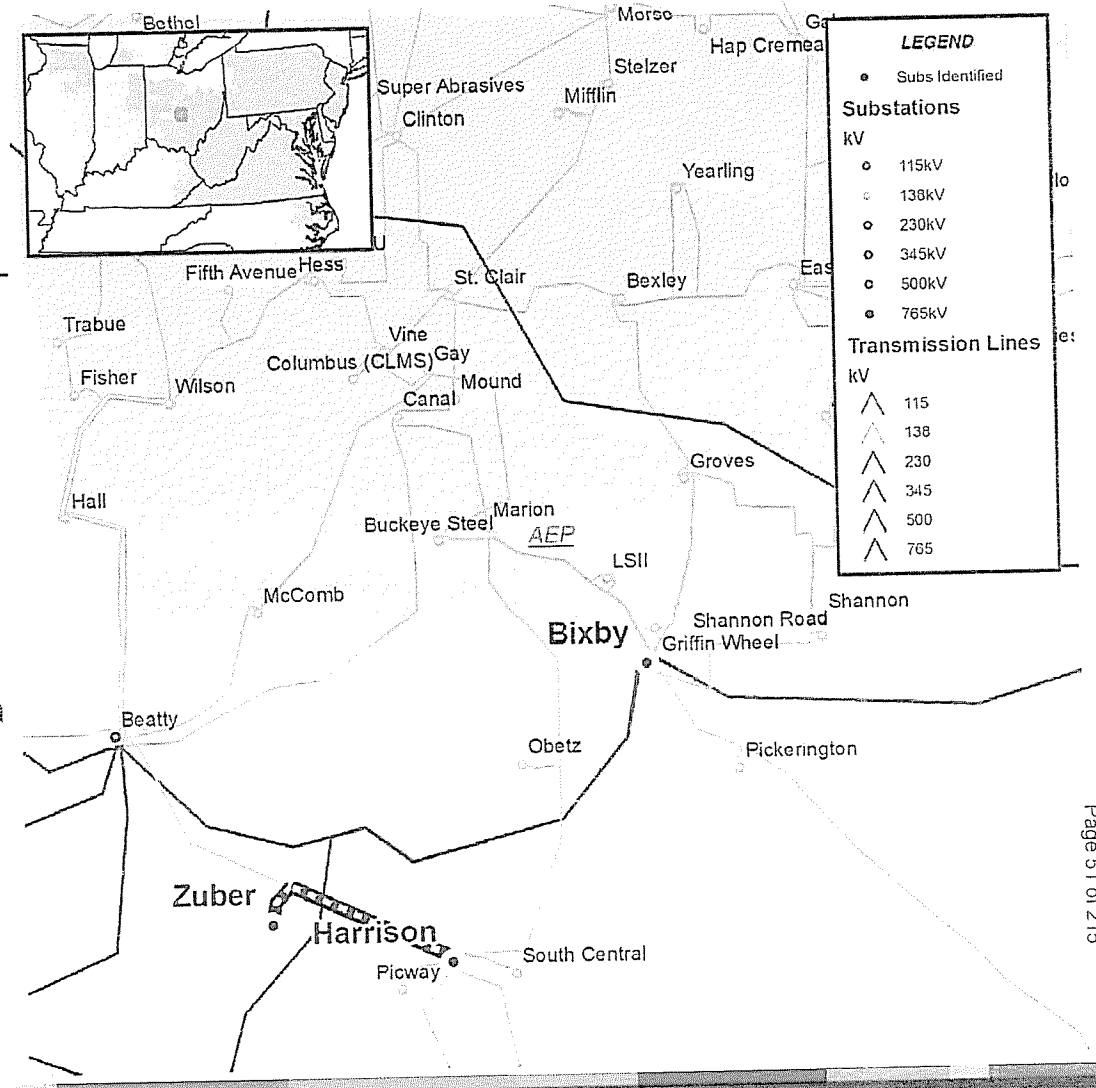
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Lincoln – Allen 138 kV line is overloaded for the loss of the Allen – Lincoln 138 kV line and the loss of Robison Park 345/138 kV transformer
- Recommended Solution: By replacing the risers at Lincoln both the Summer Normal and Summer Emergency ratings will improve to 268 MVA (B1439)
- Estimated Project Cost: $0.05 M
- Expected IS Date: 6/1/2015



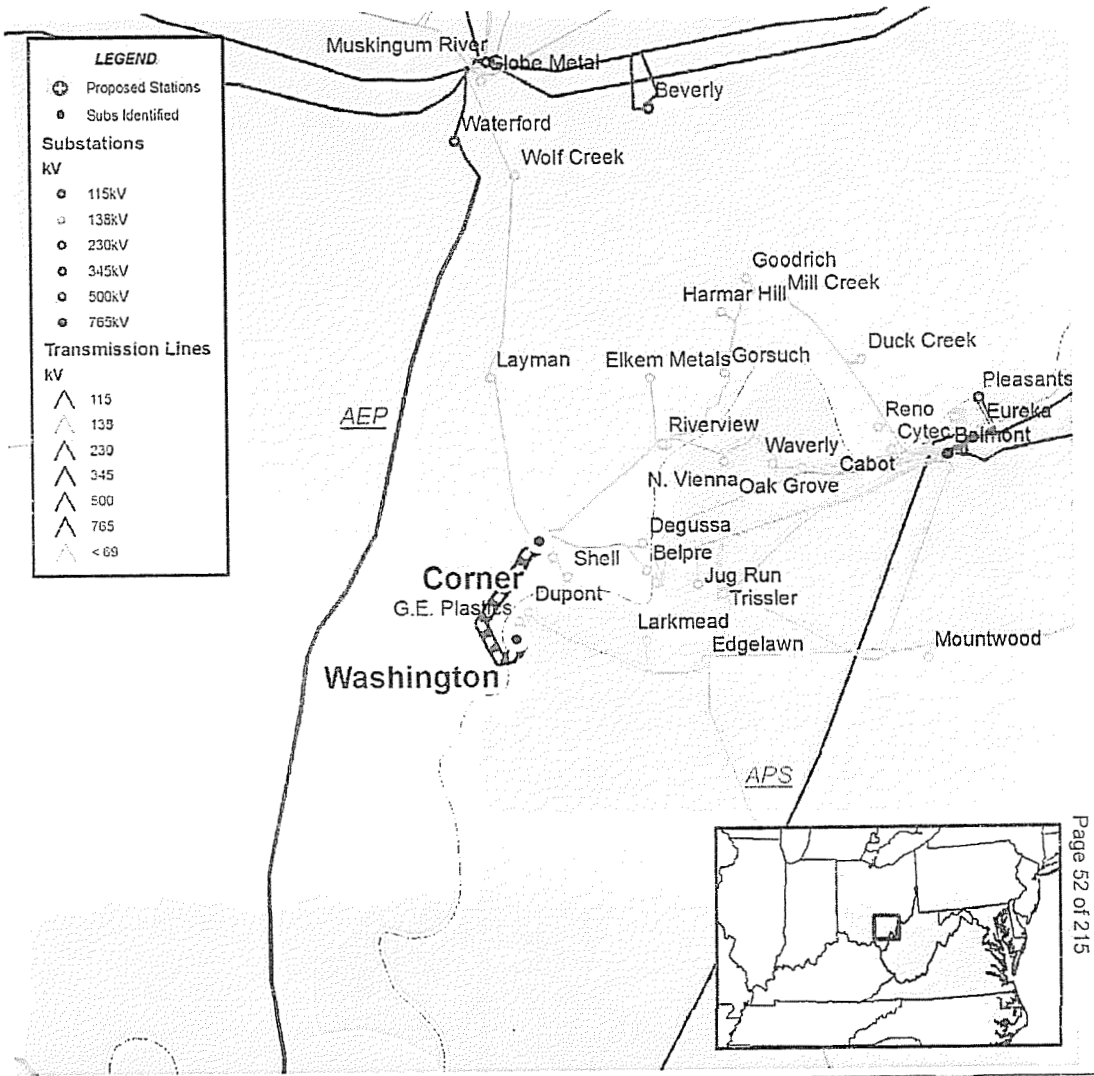
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Circleville - Zuber – Harrison 138 kV line is overloaded for the loss of the Beatty – Adkins 345 kV line and the loss of the Bixby - North fork 345 kV line or for the loss of the Harrison - Obetz - Marion 138 kV line and the loss of Bixby - North fork 345 kV line
- Recommended Solution: The Circleville – Harrison 138 kV circuit could benefit from the installation of three new 345 kV breakers at Bixby to separate the Marquis 345 kV line and transformer # 2. In addition, operating the 138 kV circuit from Circleville to Harrison and the branch from Harrison – Zuber 138 kV up to its conductor emergency ratings (B1458)
- Estimated Project Cost: $0.078 M
- Expected IS Date: 6/1/2015



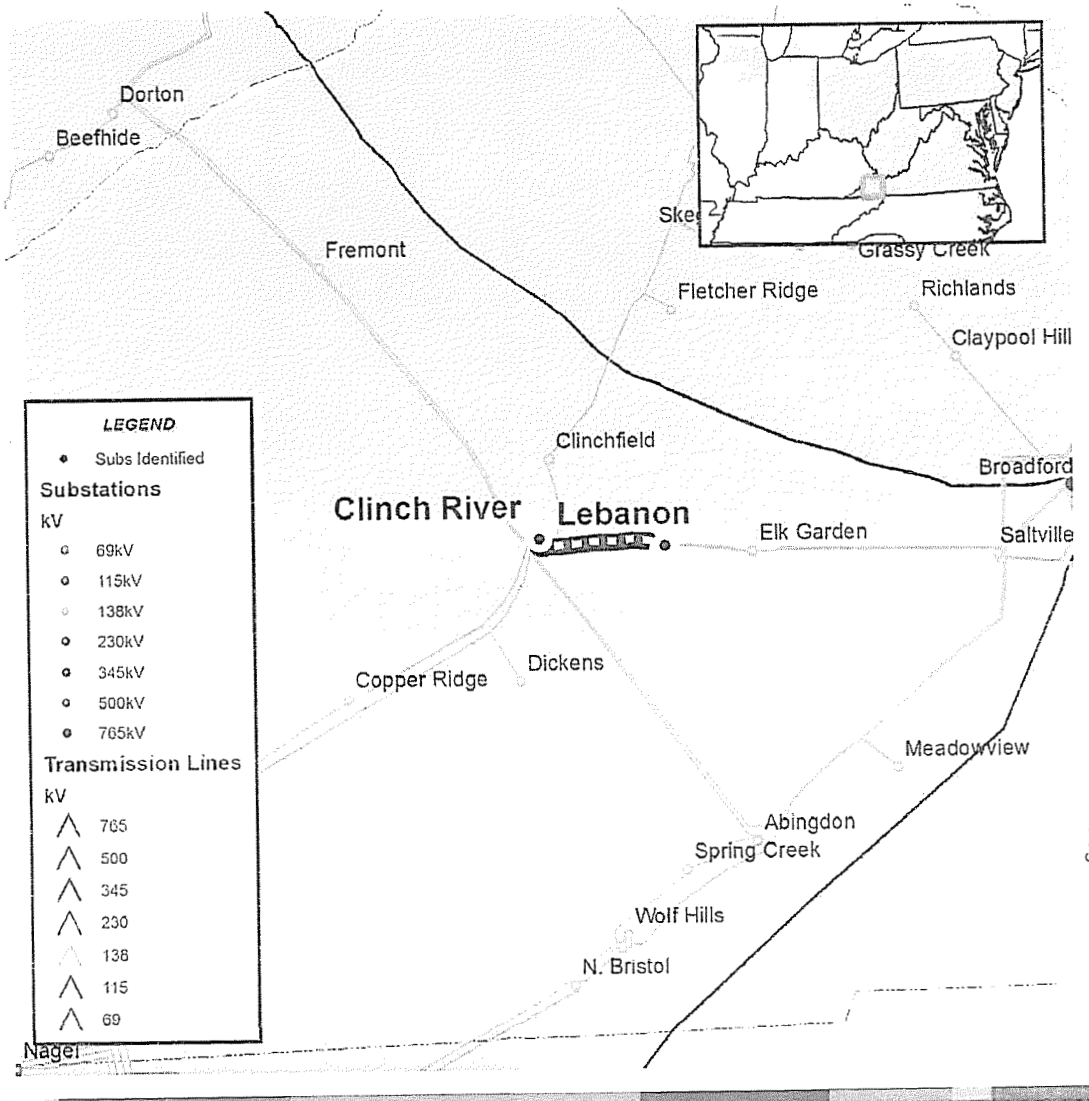
AEP Transmission Zone

- Common Mode Contingency Violation
- The Corner – Washington MP 138 kV circuit is overloaded for the tower outage of the Belmont – Trissler 138 kV line and the Belmont - Edgelawn 138 kV line
- Recommended Solution: Corner 138 kV upgrades (B1464)
- Estimated Project Cost: $0.15 M
- Expected IS Date: 6/1/2015



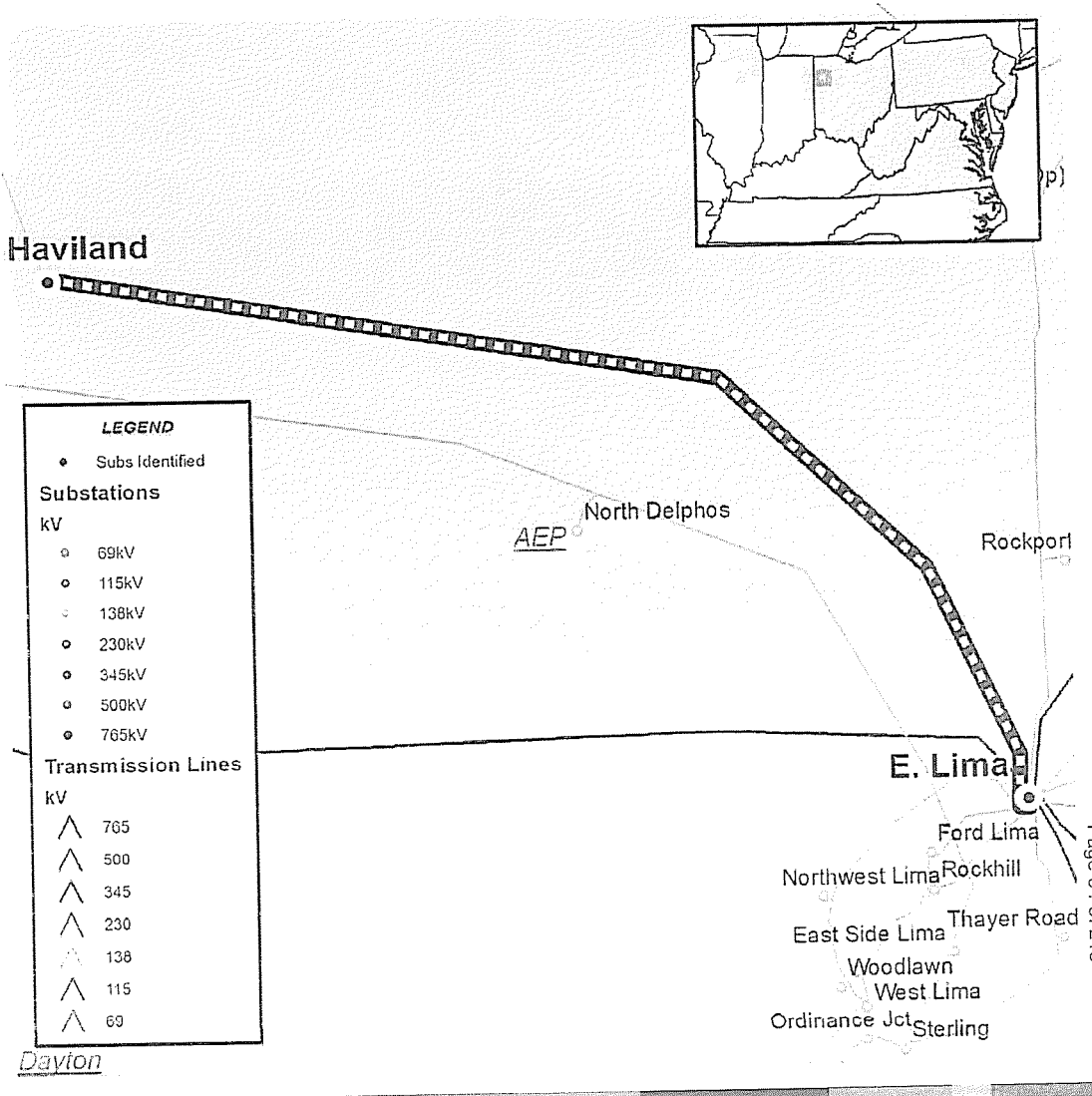
AEP Transmission Zone

- Common Mode Contingency Violation
- The Clinch River - Lebanon 138 kV line is overloaded for various common mode contingencies
- Recommended Solution: Sag Study 1 mile of the Clinch River – Saltville 138kV line and replace the risers and bus at Clinch River, Lebanon, and Elk Garden Stations (B1483)
- Estimated Project Cost: $0.22 M
- Expected IS Date: 12/31/2013



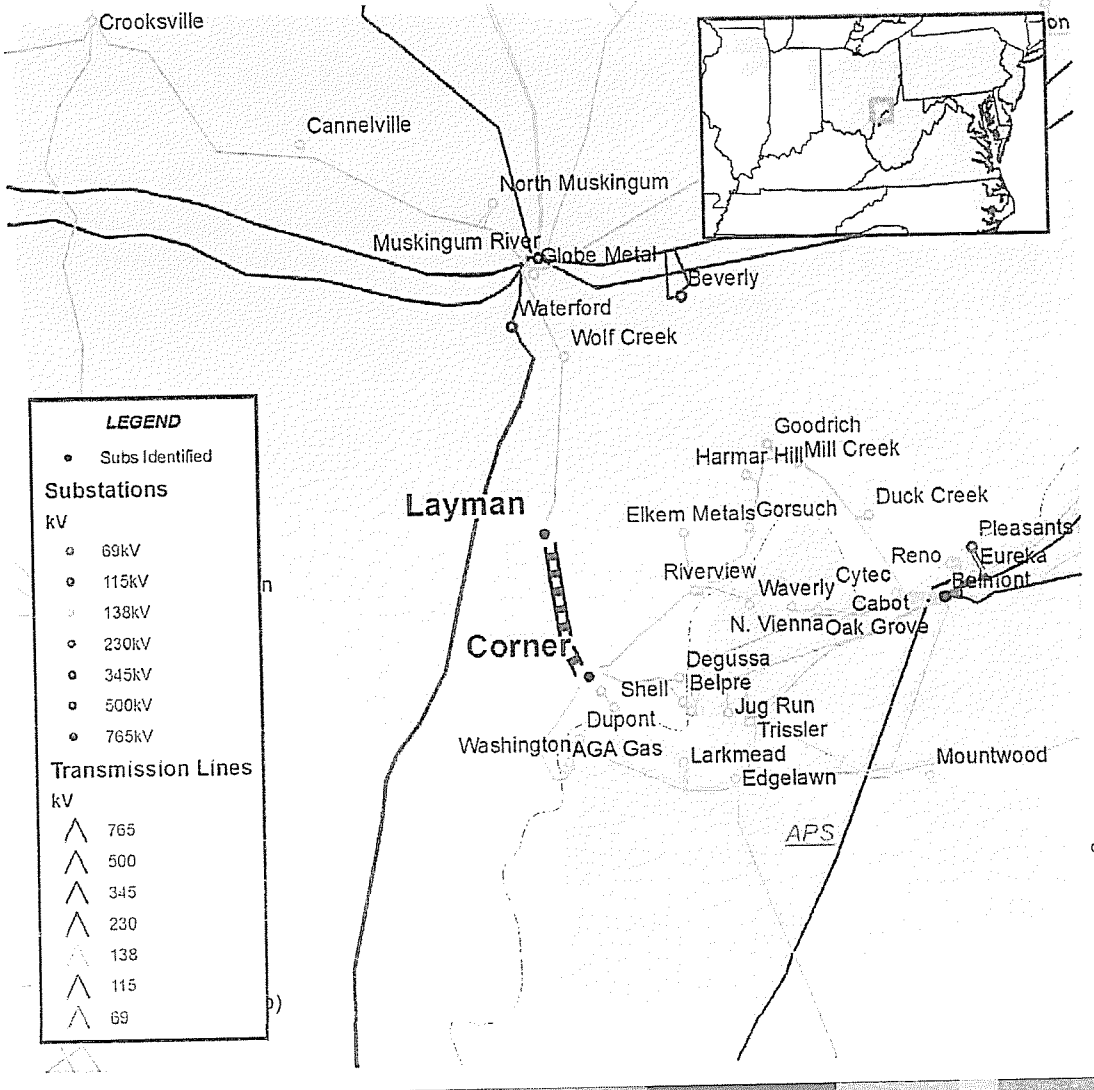
AEP Transmission Zone

- N-1-1 Thermal Violation
- The East Lima - Haviland 138 kV line is overloaded for the loss of the East Side - North Delphos 138 kV line and the loss of Convoy - Robison Park 345 kV or the Robison Park 345/138 kV transformer
- Recommended Solution: Perform a sag study on the East Lima - Haviland 138 kV line to increase the emergency rating (B1472)
- Estimated Project Cost: $0.14 M
- Expected IS Date: 12/31/2012



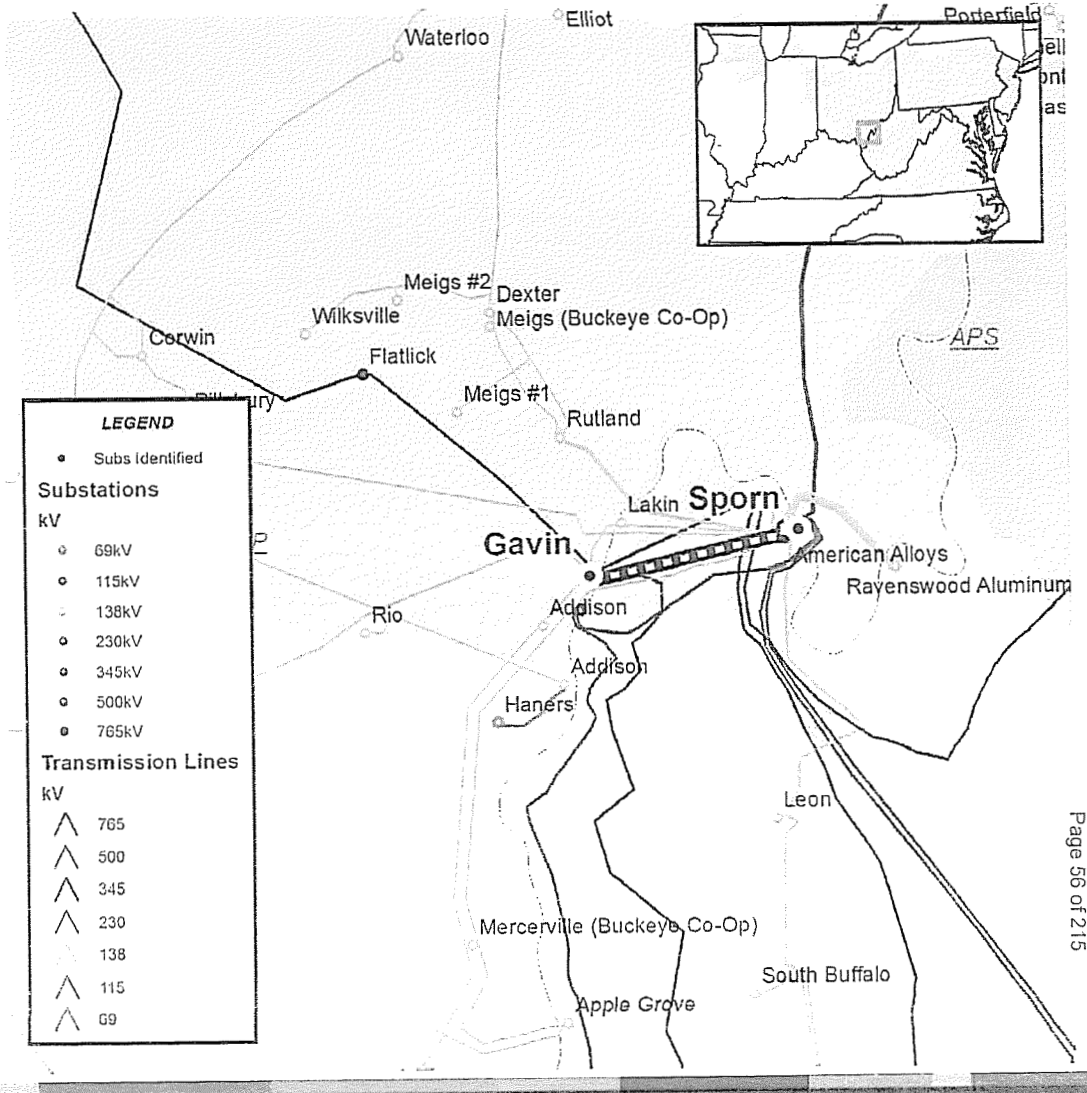
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Corner - Layman 138 kV line is overloaded for the loss of the Mountaineer – Belmont - Kammer 765 kV line and Belmont 765/500 kV transformer and the loss of the Belmont – Harrison 500 kV line
- Recommended Solution: Perform upgrades and a sag study on the Corner – Layman 138 kV section of the Corner – Muskingum River 138 kV circuit (B1480)
- Estimated Project Cost: $0.2 M
- Expected IS Date: 12/31/2013



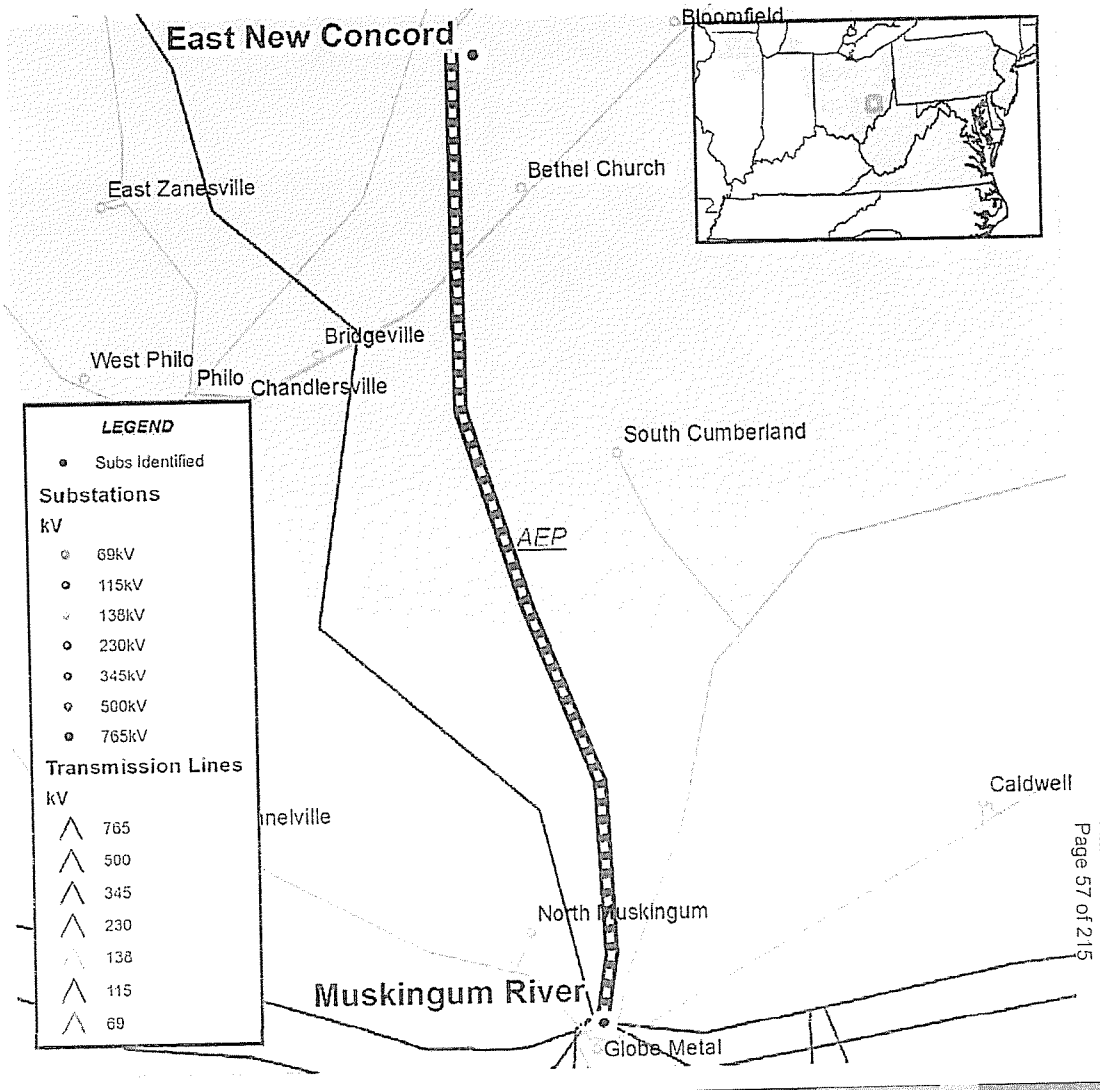
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Sporn A - Gavin 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: These lines have been de-rated to their summer normal conductor rating. A sag study will be performed to determine if the emergency rating can be improved (B1499)
- Estimated Project Cost: $0.16 M
- Expected IS Date: 12/31/2013



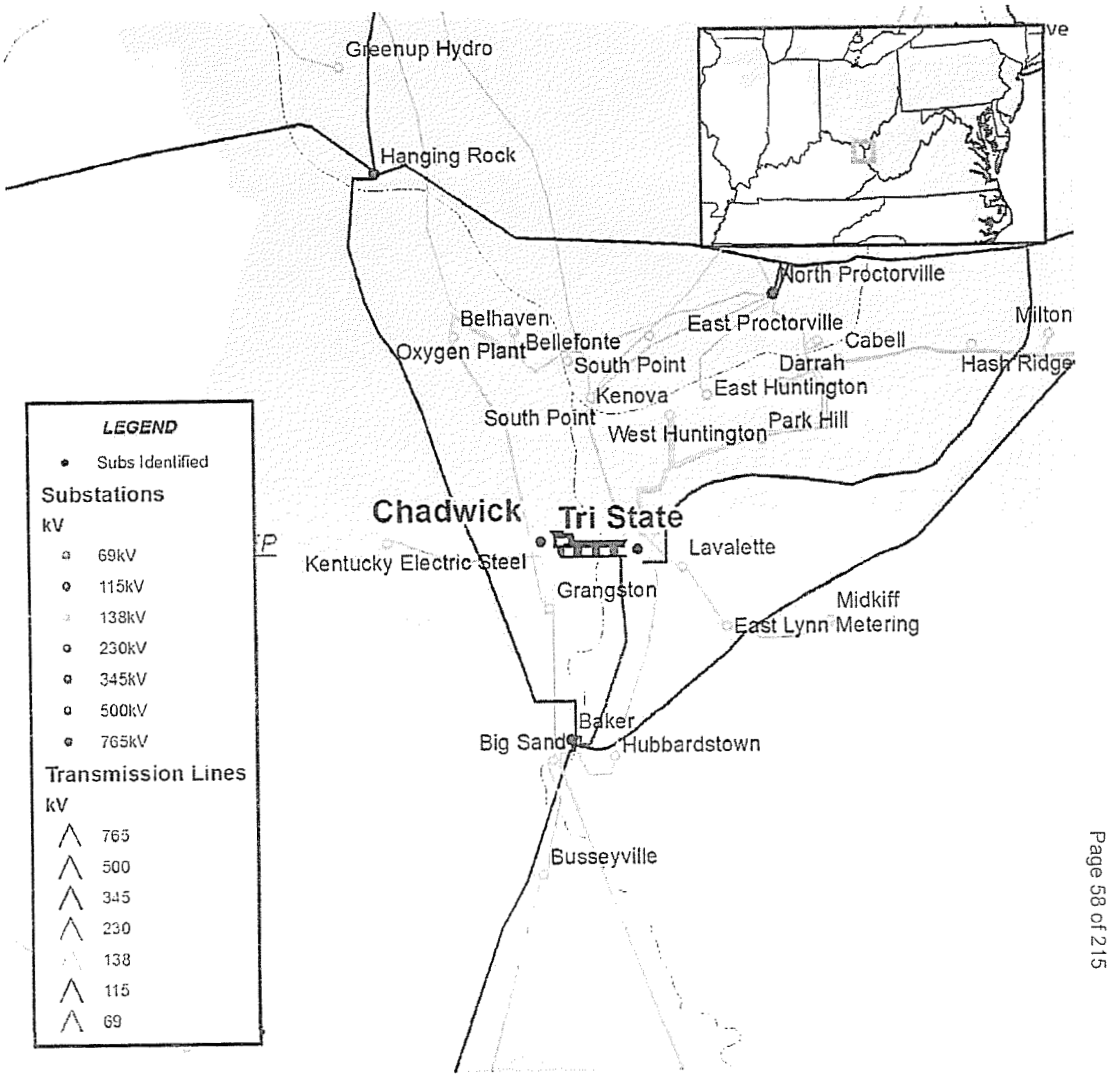
AEP Transmission Zone

- N-1-1 Thermal Violation
- The East New Concord-Muskingum River 138 kV line is overloaded for the loss of the South Canton 765/345 kV transformer and the loss of Ohio Central-Muskingum River 345 kV
- Recommended Solution: Perform a sag study on the East New Concord – Muskingum River section of the Muskingum River – West Cambridge 138 kV circuit (B1473)
- Estimated Project Cost: $0.15 M
- Expected IS Date: 12/31/2012



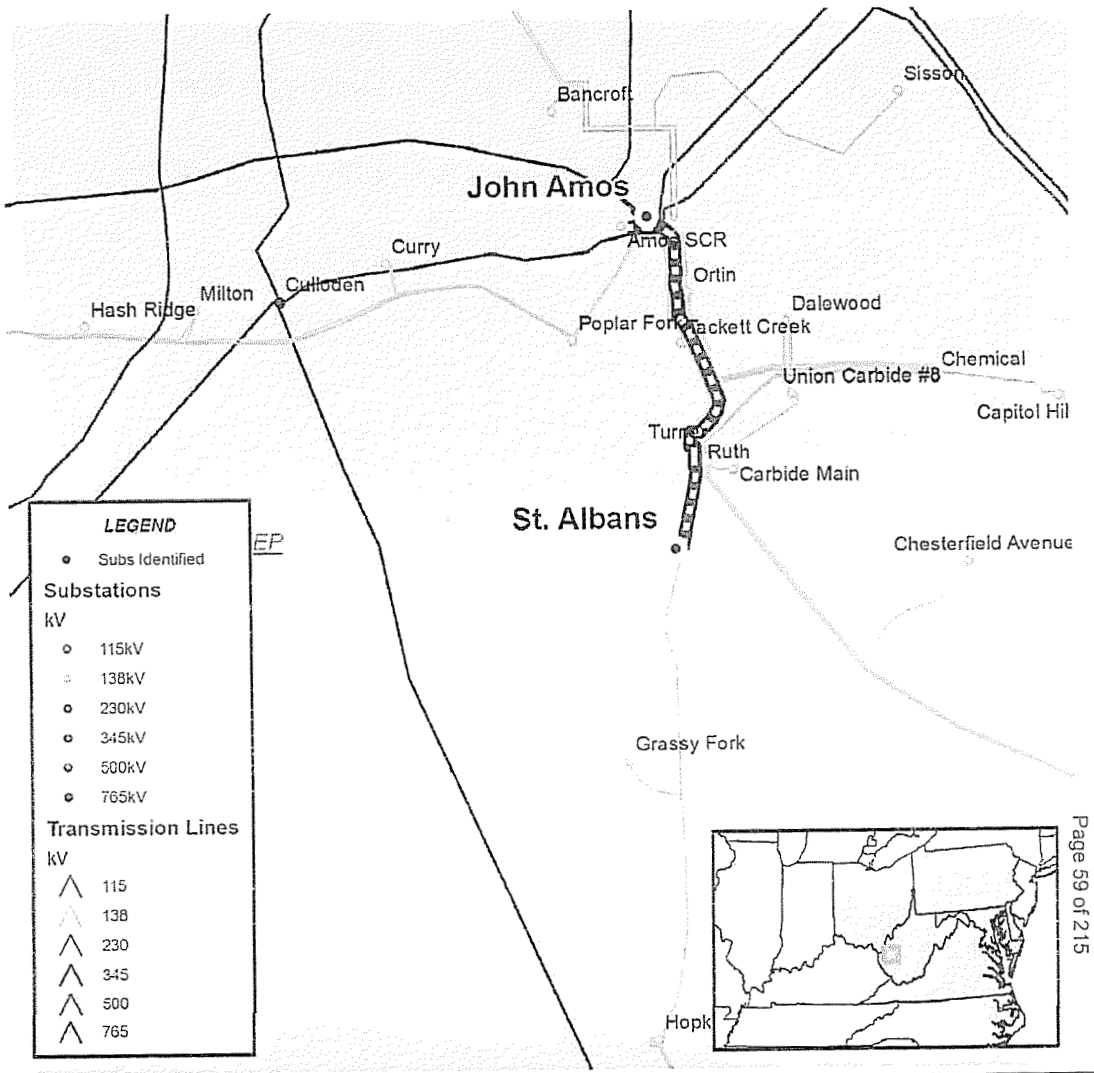
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Tristate - Chadwick #1 and #2 138 kV lines are overloaded for various combinations of single contingencies
- Recommended Solution: A sag study must be performed for the 5.40 mile Tristate – Chadwick 138 kV line to determine if a higher emergency rating can be used (B1489)
- Estimated Project Cost: $0.3 M
- Expected IS Date: 12/31/2013



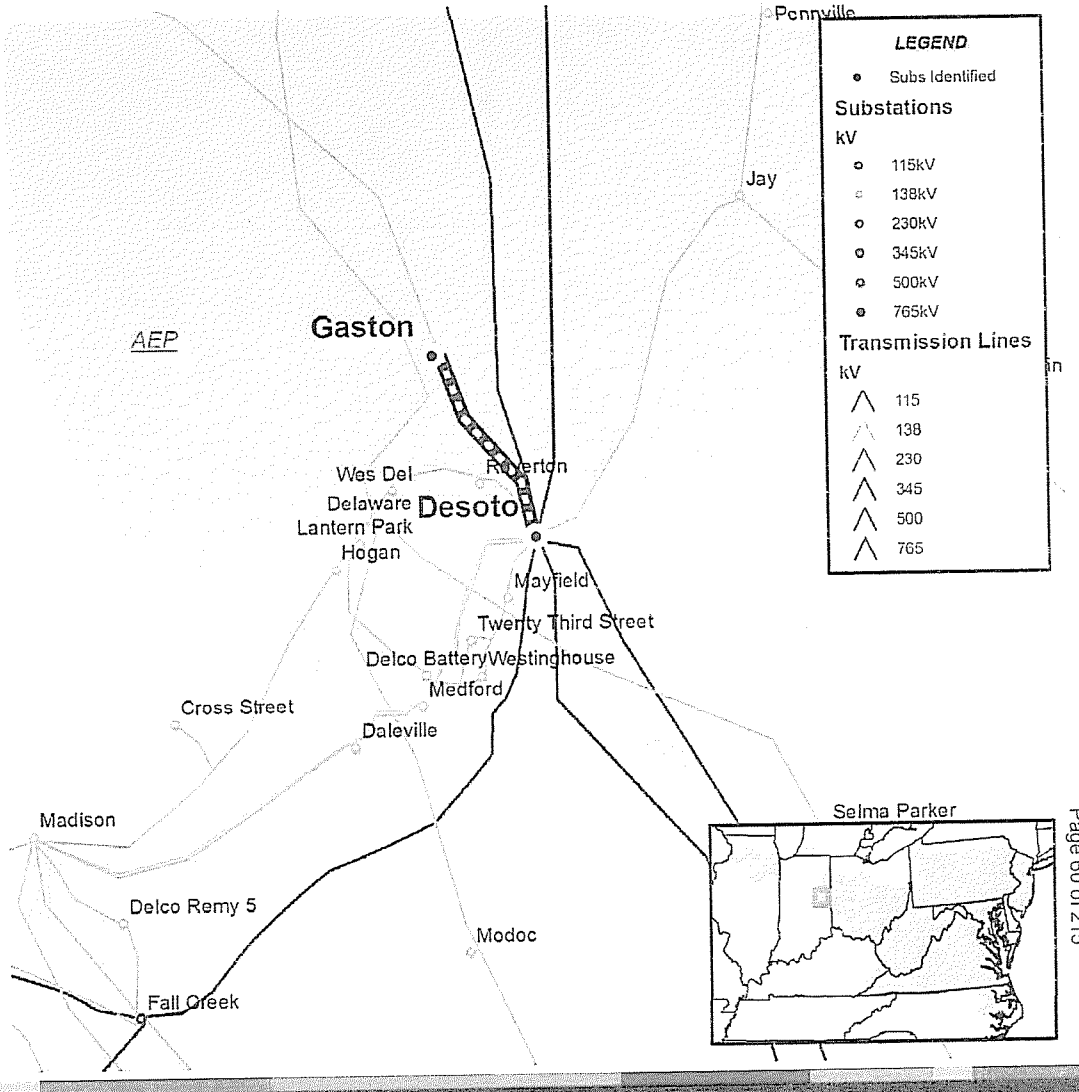
AEP Transmission Zone

- N-1-1 Thermal Violation
- The John Amos – St. Albans 138 kV line is overloaded for the loss of the Baker – Broadford 765 kV line and the loss of Culloden - Wyoming 765 kV line
- Recommended Solution: Sag studies may allow for operation of these circuits up to their conductor emergency ratings which would eliminate the overloads for the contingencies listed (B1422)
- Estimated Project Cost: $0.3 M
- Expected IS Date: 12/31/2011



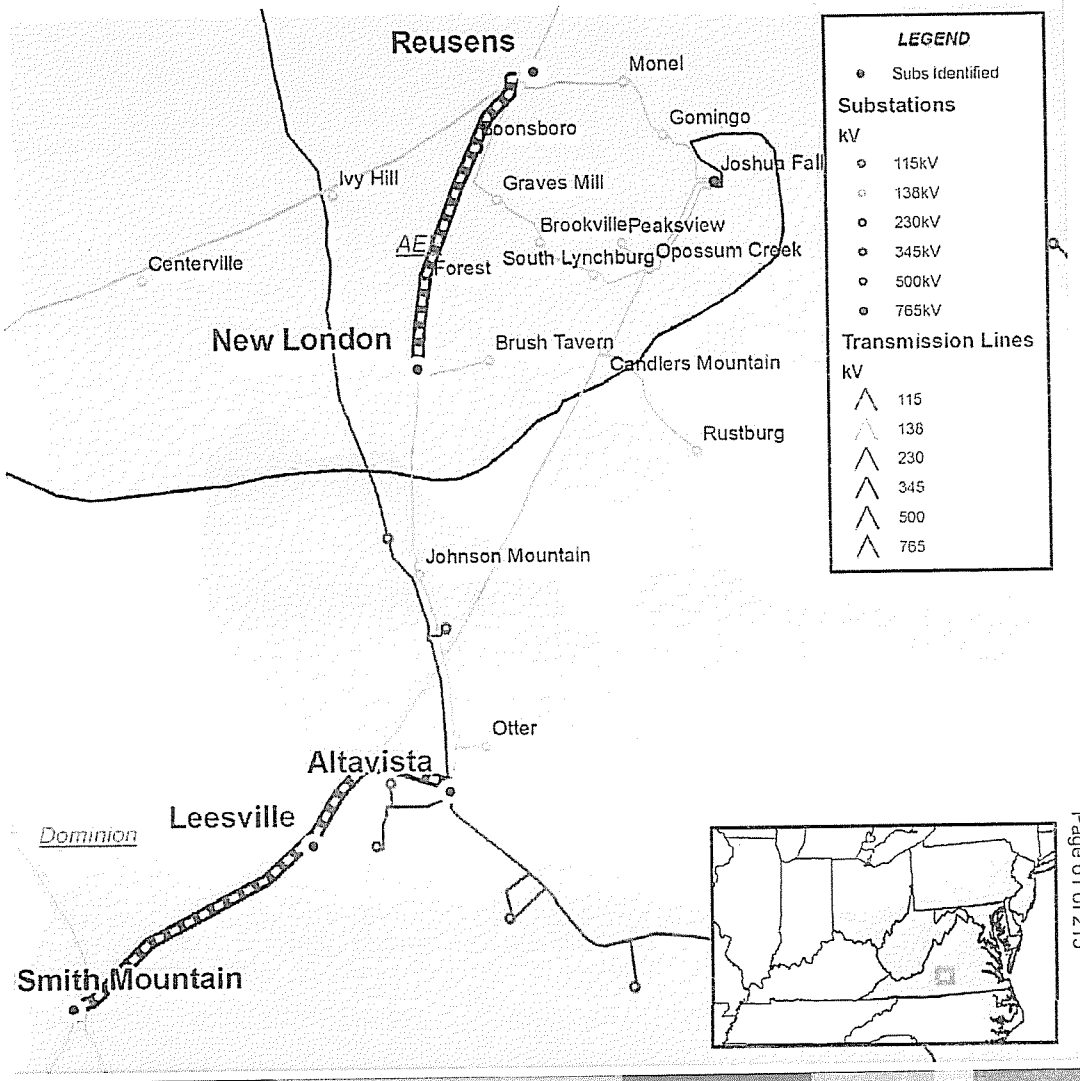
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Gaston - Desoto 138 kV line is overloaded for the loss of the Linwood – Rosehill - Pendleton 138 kV line and the loss of the Greentown - Jefferson 765 kV line
- Recommended Solution: Perform a sag study on the Desoto – Deer Creek 138 kV line to increase the emergency rating (B1416)
- Estimated Project Cost: $0.1216 M
- Expected IS Date: 12/31/2011



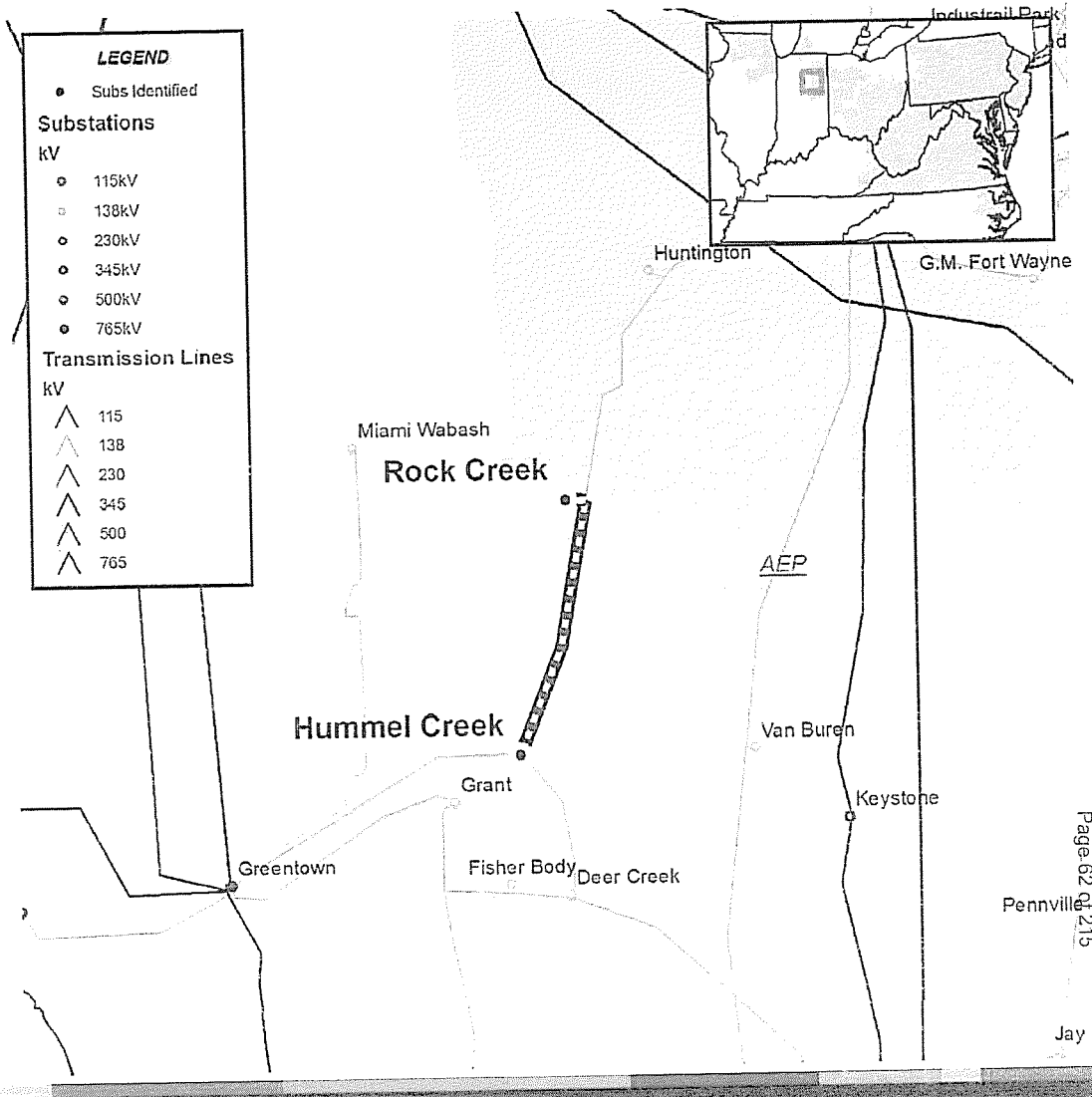
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Smith Mountain – Leesvile – Altavista - Otter 138 kV line and Boones - Forest - New London – JohnMT – Otter 138 kV line are overloaded for various N-1-1 contingency combinations
- Recommended Solution: Sag studies may allow for operation of these circuits up to their conductor emergency ratings which would eliminate the overloads for the contingencies listed (B1427)
- Estimated Project Cost: $0.184 M
- Expected IS Date: 12/31/2011



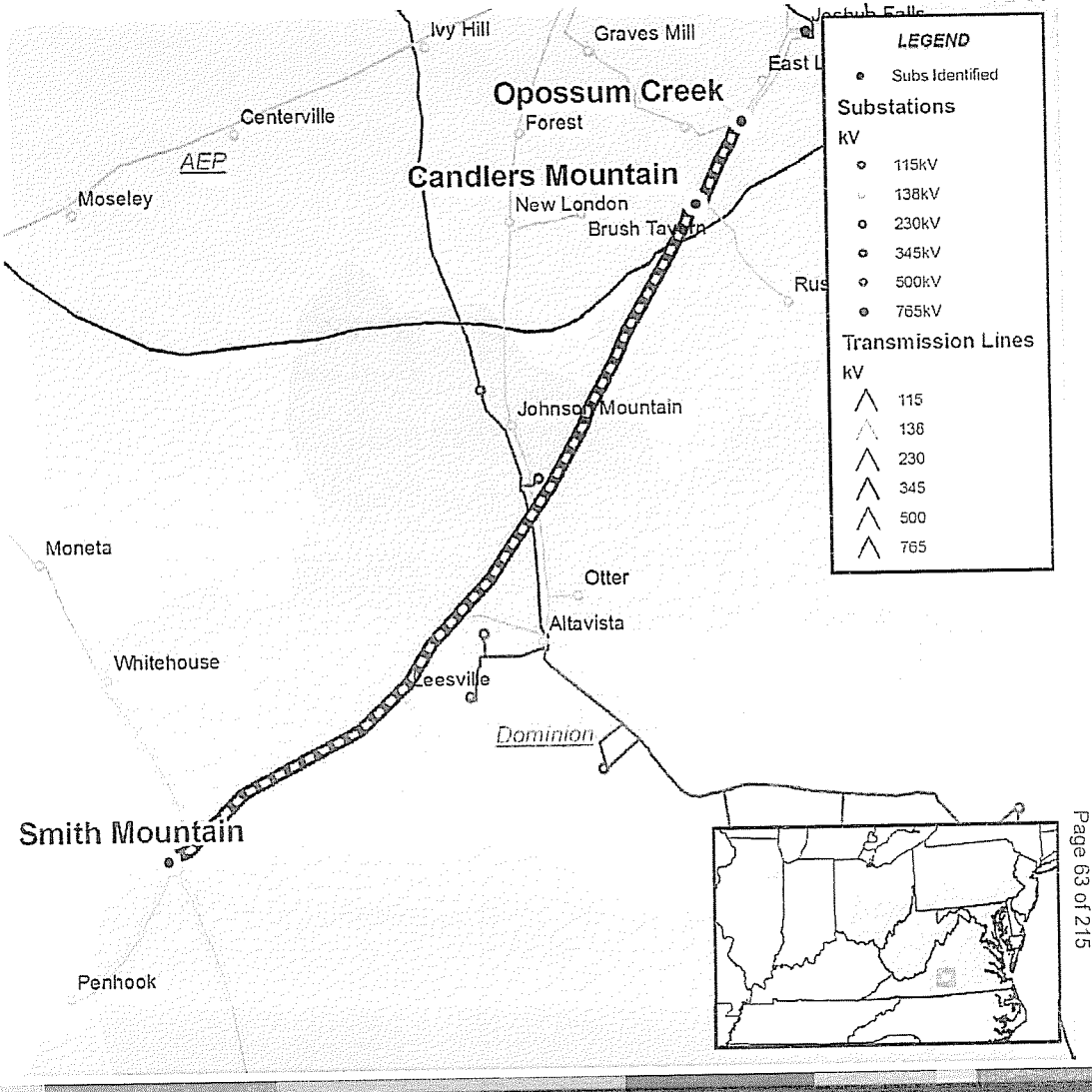
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Rock Creek – Hummel Creek 138 kV line is overloaded for the loss of the Greentown 138kV – Mier - Wabash 138 kV line, and the loss of Dumont - Greentown 765 kV line
- Recommended Solution: a sag study will be required to increase the emergency MOT for the line, station work at Huntington Junction station to replace bus and risers, and station work at Sorenson to replace the relays for the Hummel Creek – Huntington – Sorenson line. Depending on the outcome of the sag study, more action may be required in order to increase the rating. Because the section of line between Hummel Creek and Rock Creek and between Huntington Junction and Sorenson is only a section of the circuit that runs from Hummel Creek to Sorenson, the entire circuit will have the sag study performed upon it – approximately 33.5 miles (B1437)
- Estimated Project Cost: $0.3 M
- Expected IS Date: 12/31/2011



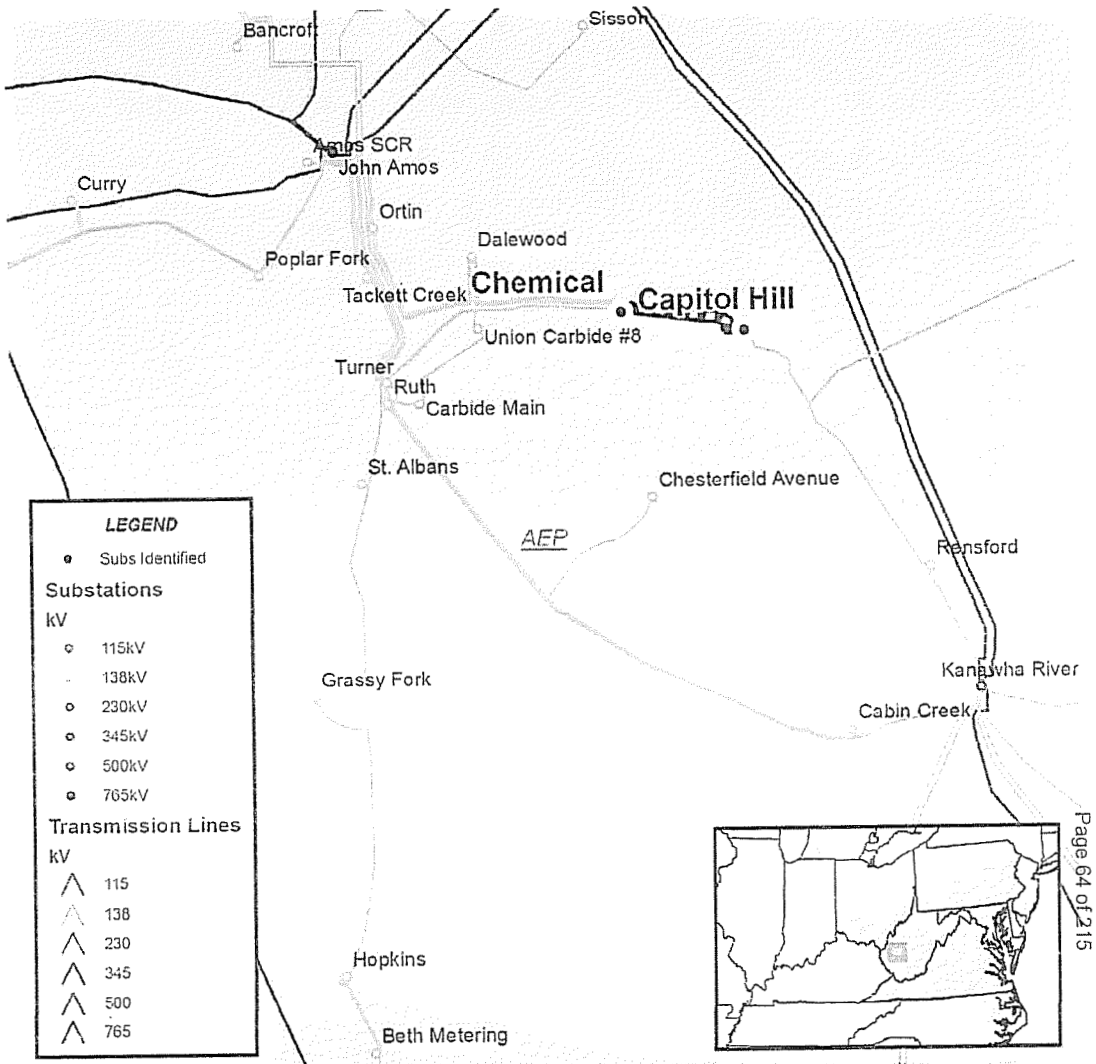
AEP Transmission Zone

- N-1-1 Thermal Violation and Baseline Thermal Violation
- The Smith Mountain – Candlers Mountain 138 kV line is overloaded for the loss of the Jacksons Ferry – Cloverdale - Joshua Falls 765 kV line and Cloverdale 765/345 kV transformer; and the loss of the Leesville - Smith Mountain 138 kV line and Leesville Unit 1
- There is also a baseline thermal violation for the Joshua Falls – Cloverdale 765KV line fault with a stuck breaker at Cloverdale
- Recommended Solution: Sag studies may allow for operation of these circuits up to their conductor emergency ratings which would eliminate the overloads for the contingencies listed (B1428)
- Estimated Project Cost: $0.132 M
- Expected IS Date: 12/31/2011



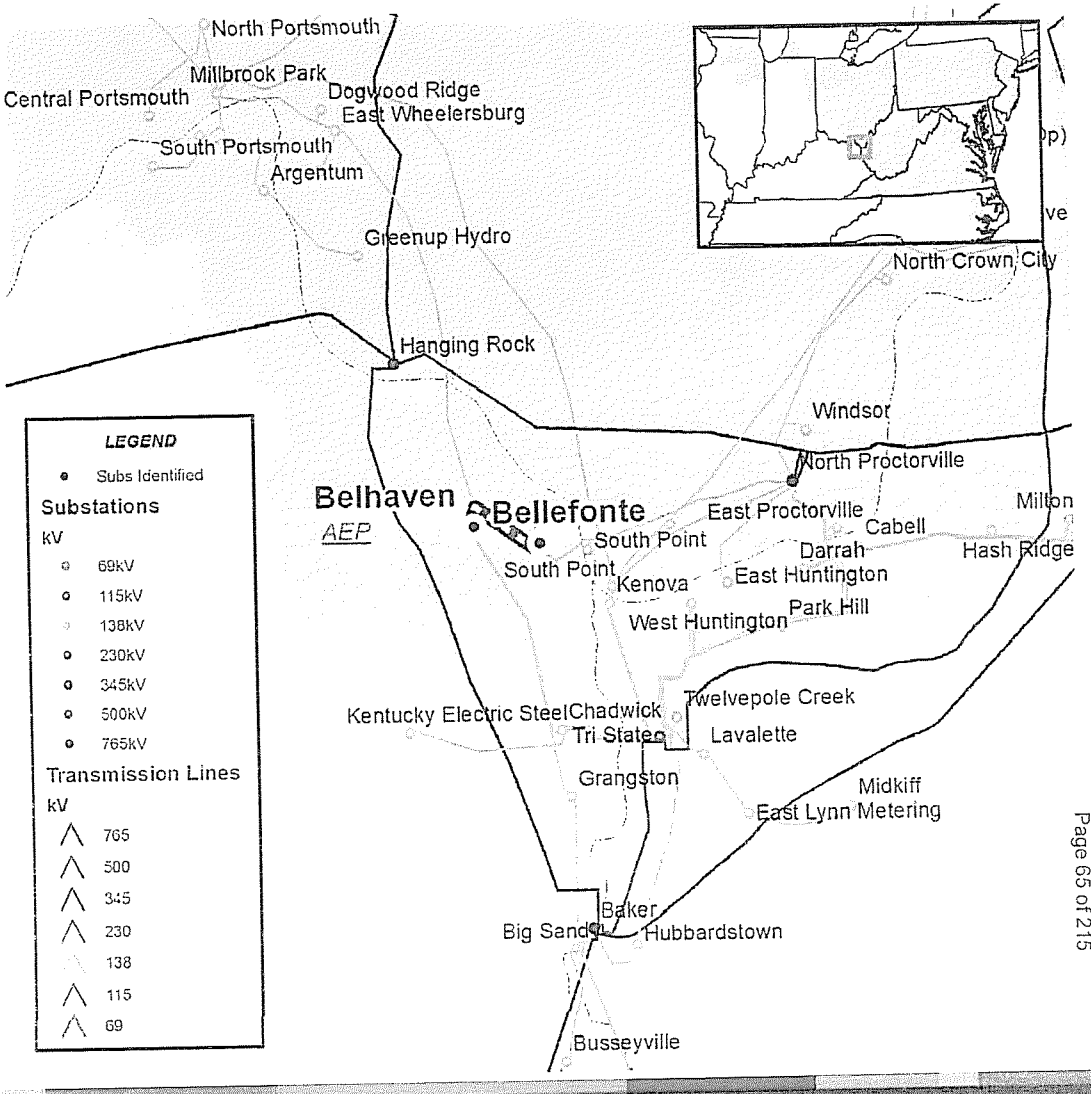
AEP Transmission Zone

- Baseline Thermal Violation
- The Chemical – Capitol Hill 138 kV line is overloaded for the tower outage of the Amos – Kanawh 345 kV line and the Kanawh – Sporn 345 kV line
- Recommended Solution: A sag study will be performed on the Chemical - Capitol Hill 138 kV line to determine if the emergency rating can be utilized. If sag studies reveal no problems, the conductor emergency rating would eliminate potential overloads in the area. (B1423)
- Estimated Project Cost: $0.1 M
- Expected IS Date: 12/31/2011



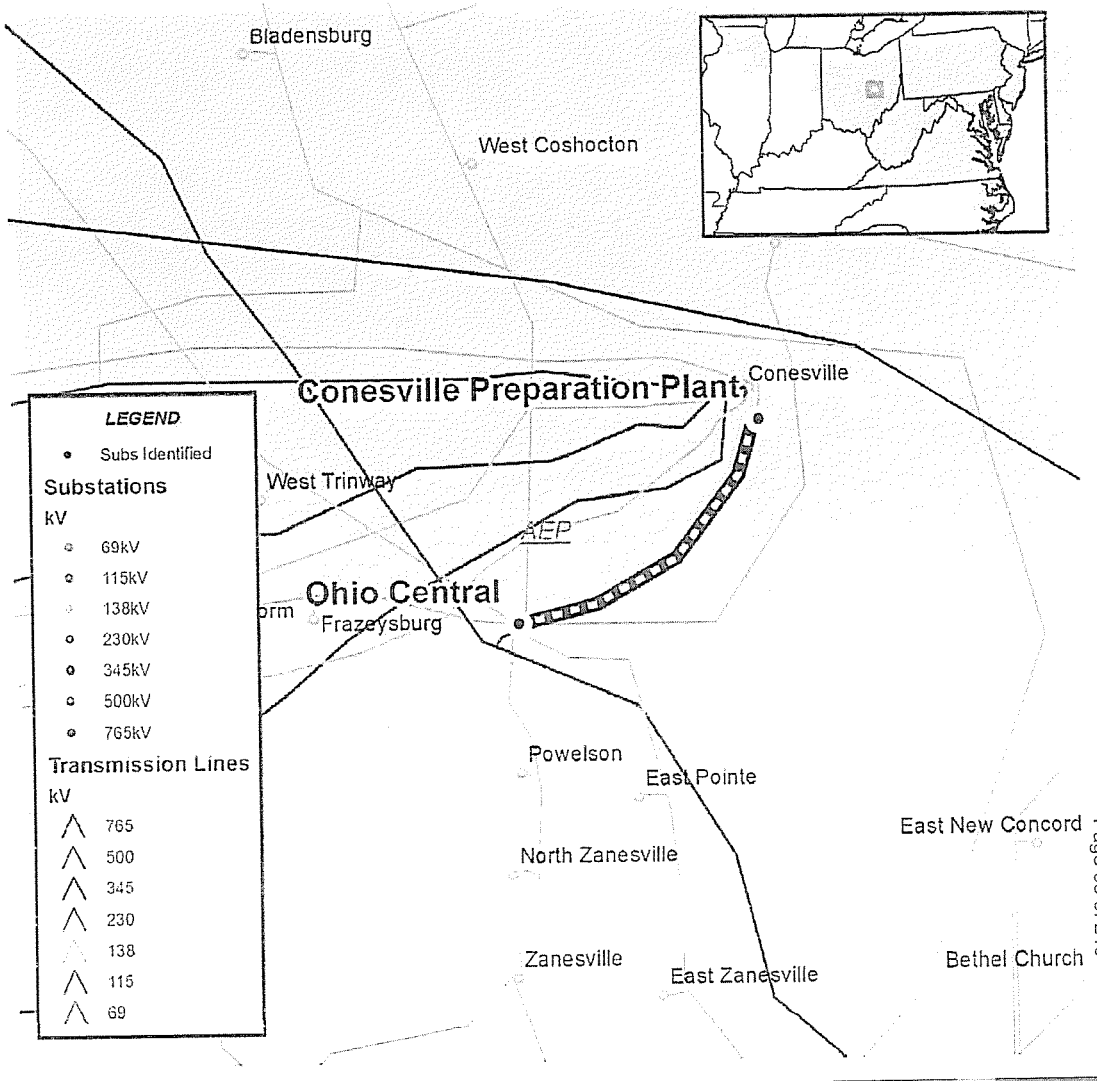
AEP Transmission Zone

- Generator Deliverability Violation
- The Solida - Bellefonte 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: Perform a sag study for the North Proctorville – Solida - Bellefonte 138 kV line to increase its emergency rating (B1494)
- Estimated Project Cost: $0.09 M
- Expected IS Date: 12/31/2013



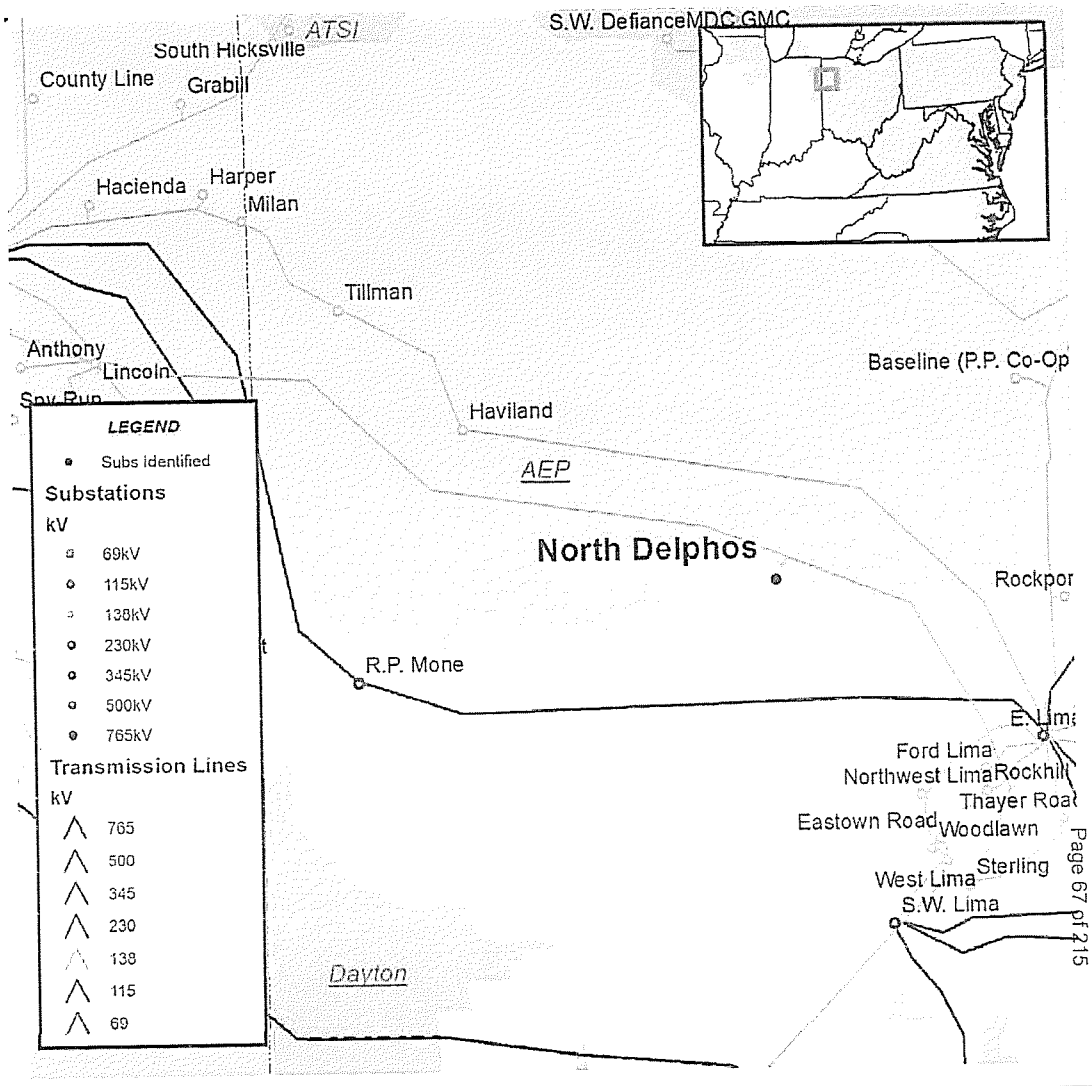
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Ohio Central - Prep Plant Tap 138 kV line is overloaded for various N-1-1 combinations
- Recommended Solution: Perform a sag study on the Ohio Central – Prep Plant tap 138 kV circuit (B1474)
- Estimated Project Cost: $0.044 M
- Expected IS Date: 12/31/2012



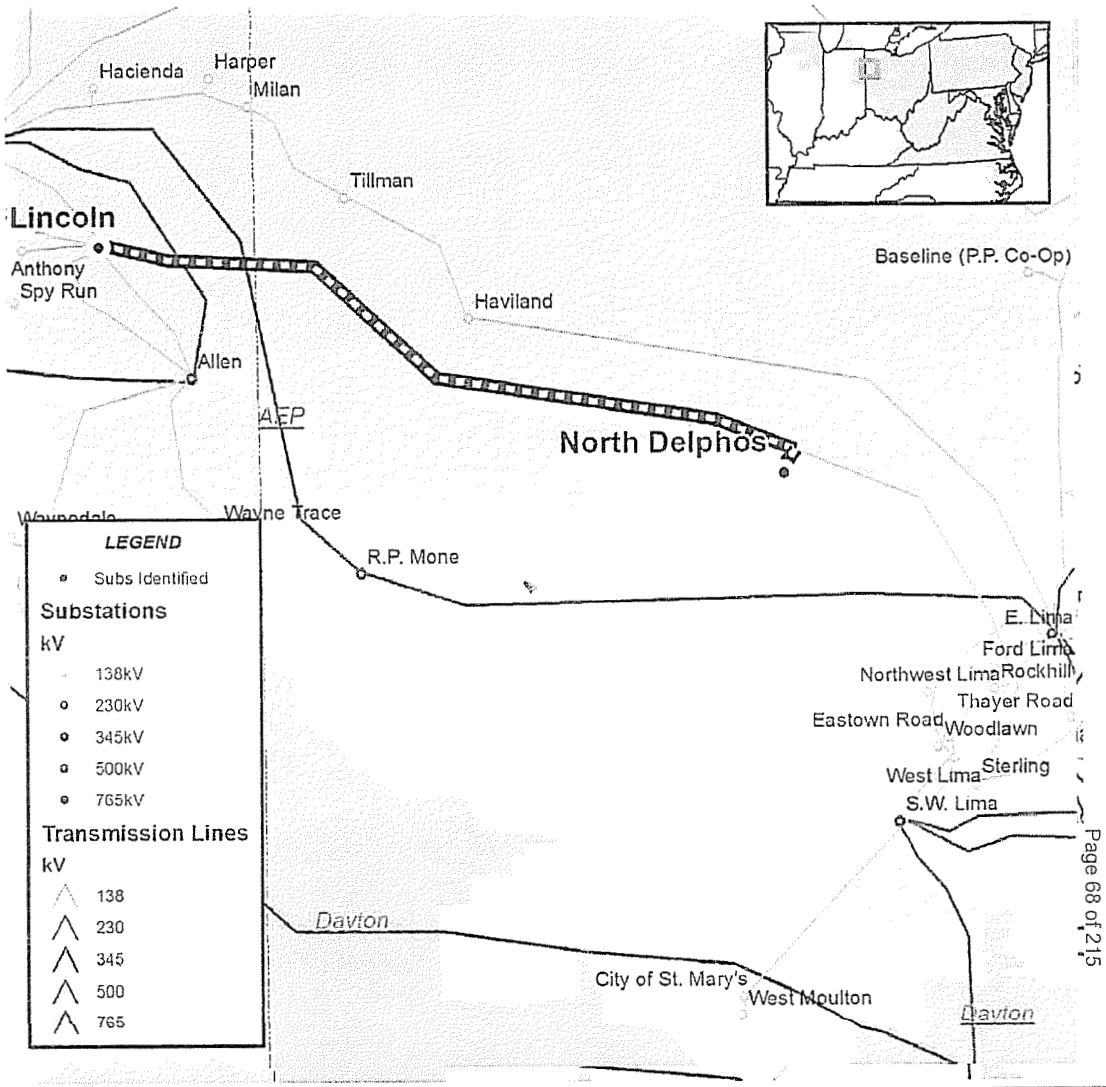
AEP Transmission Zone

- Common Mode Contingency Violation
- The S-073a - North Delphos 138 kV line is overloaded for the loss of the Tillman – Dawkinss – Milan 138 kV line, Lincoln-T-131 Tap 138 kV line, Tillman-R-049 138 kV line, Tillman 345/138 kV transformer, and Hoffman-Tillman-St R14 345 kV line (B1475)
- Recommended Solution: Perform a sag study on the S73 – North Delphos 138 kV line to increase the emergency rating
- Estimated Project Cost: $0.075 M
- Expected IS Date: 12/31/2012



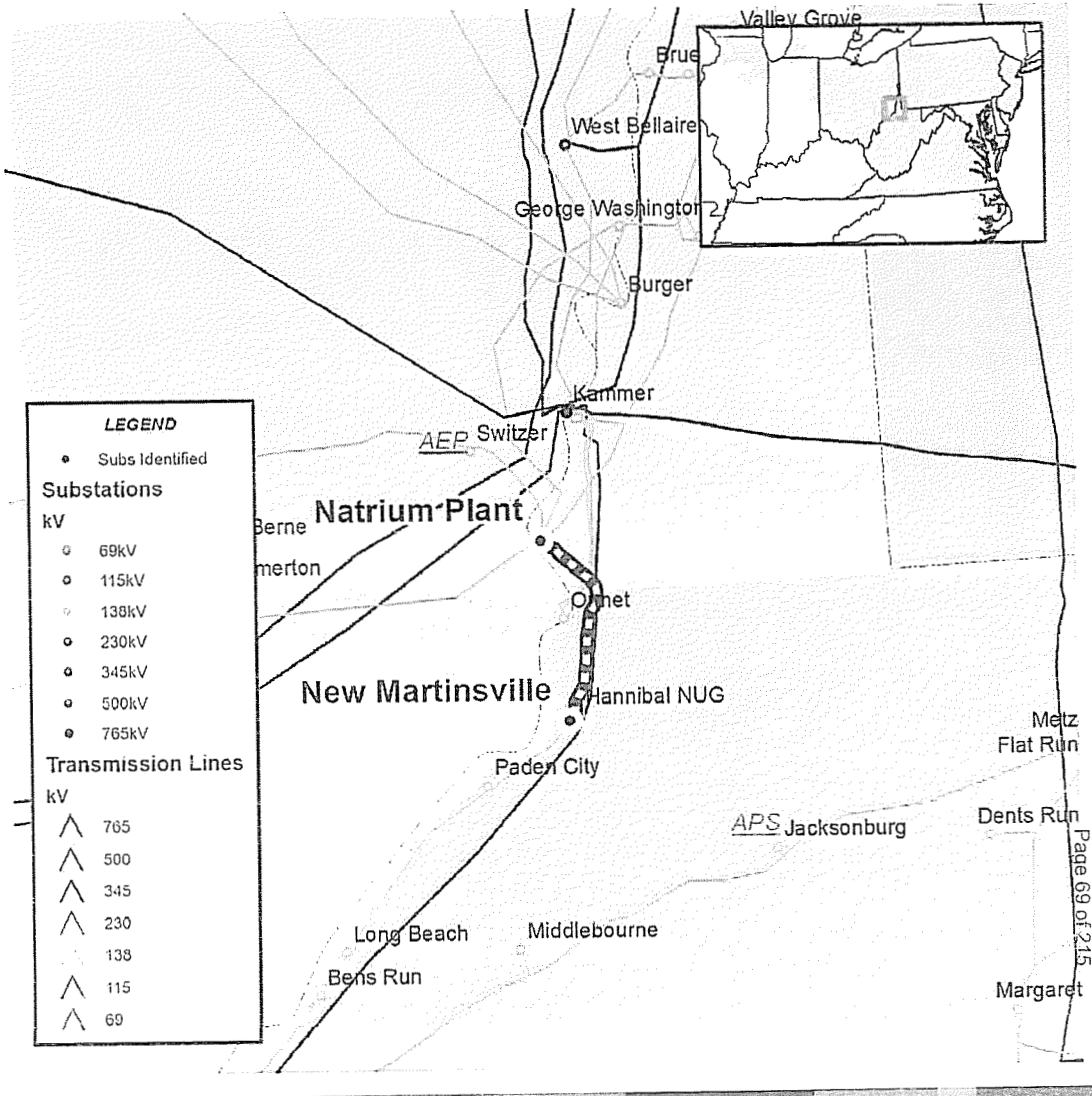
AEP Transmission Zone

- Common Mode Contingency Violation
- The S73 - T131 Tap 138 kV line is overloaded for various common mode contingencies
- Recommended Solution: Perform a sag study on the S73 – T131 138 kV line to increase the emergency rating (B1476)
- Estimated Project Cost: $0.03 M
- Expected IS Date: 12/31/2012



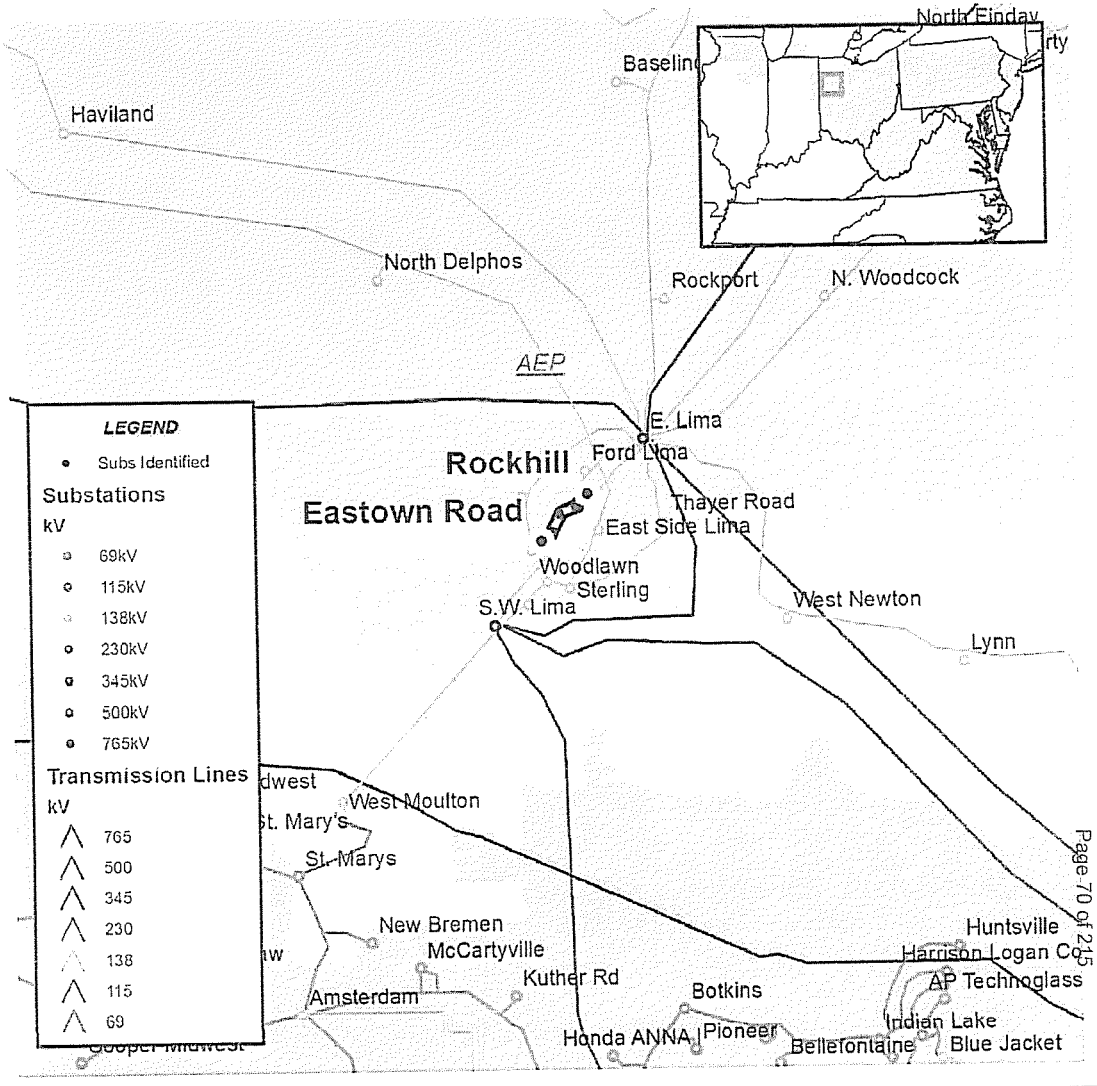
AEP Transmission Zone

- N-1-1 Thermal Violation
- The New Martinsville 138kv-Natrium 138 kV line is overloaded for the loss of the Montaineer – Belmont - Kammer 765 kV line, and Belmont 765/500 kV transformer; and the loss of Belmont –Harrison 500 kV line
- Recommended Solution: The Natrium – North Martin 138 kV circuit would need an electrical clearance study among other equipment upgrades (B1477)
- Estimated Project Cost: $0.0995 M
- Expected IS Date: 12/31/2013



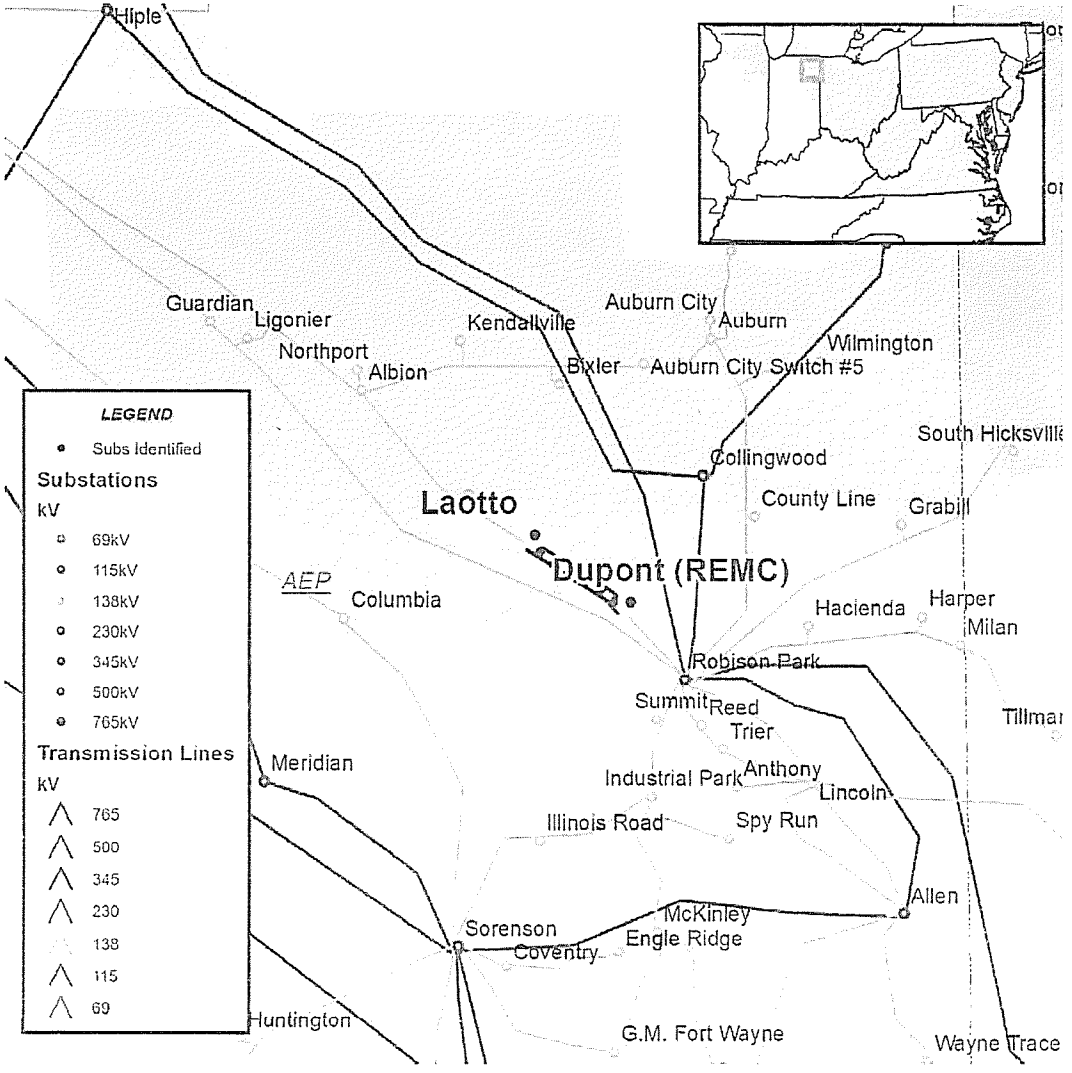
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Eastown Road - Rockhill 138 kV line is overloaded for the loss of the East Lima - Northwest Lima 138 kV line and the loss of Southwest Lima - West Lima 138 kV line
- Recommended Solution: Perform a sag study on the West Lima – Eastown Road – Rockhill 138 kV line and replace the 138 kV risers at Rockhill station to increase the emergency rating (B1481)
- Estimated Project Cost: $0.065 M
- Expected IS Date: 12/31/2013



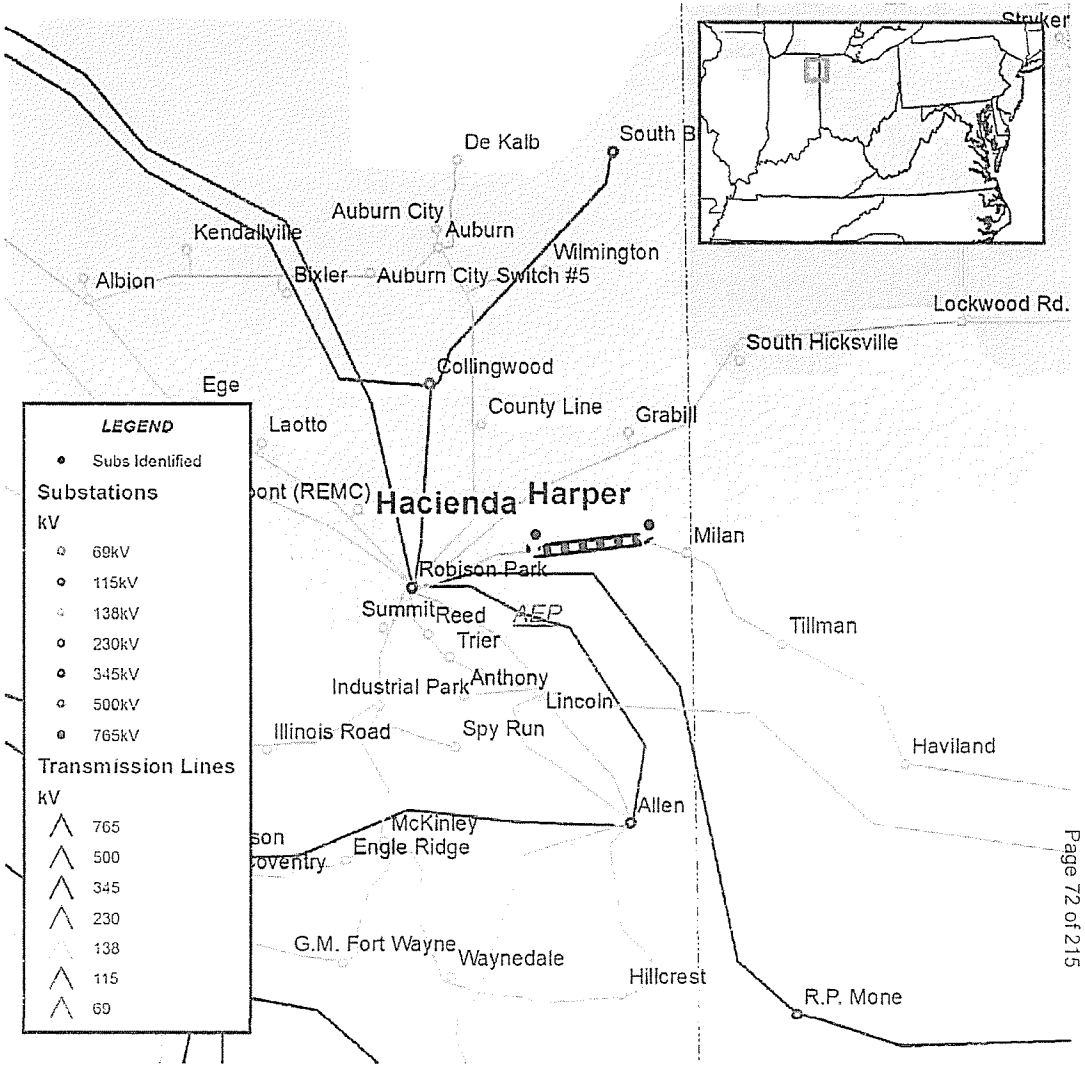
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Dupont – Huntertown - laotto 138 kV line is overloaded for the loss of the Air Products – Wilmington - Auburn 138 kV line, Wilmington – Countyline - Robison Park 138 kV line, and Countyline - Countyline Load 138 kV line and the loss of Concord - Countryside 138 kV line
- Recommended Solution: Perform a sag study for the Albion – Robison Park 138 kV line to increase its emergency rating (B1482)
- Estimated Project Cost: $0.0888 M
- Expected IS Date: 12/31/2013



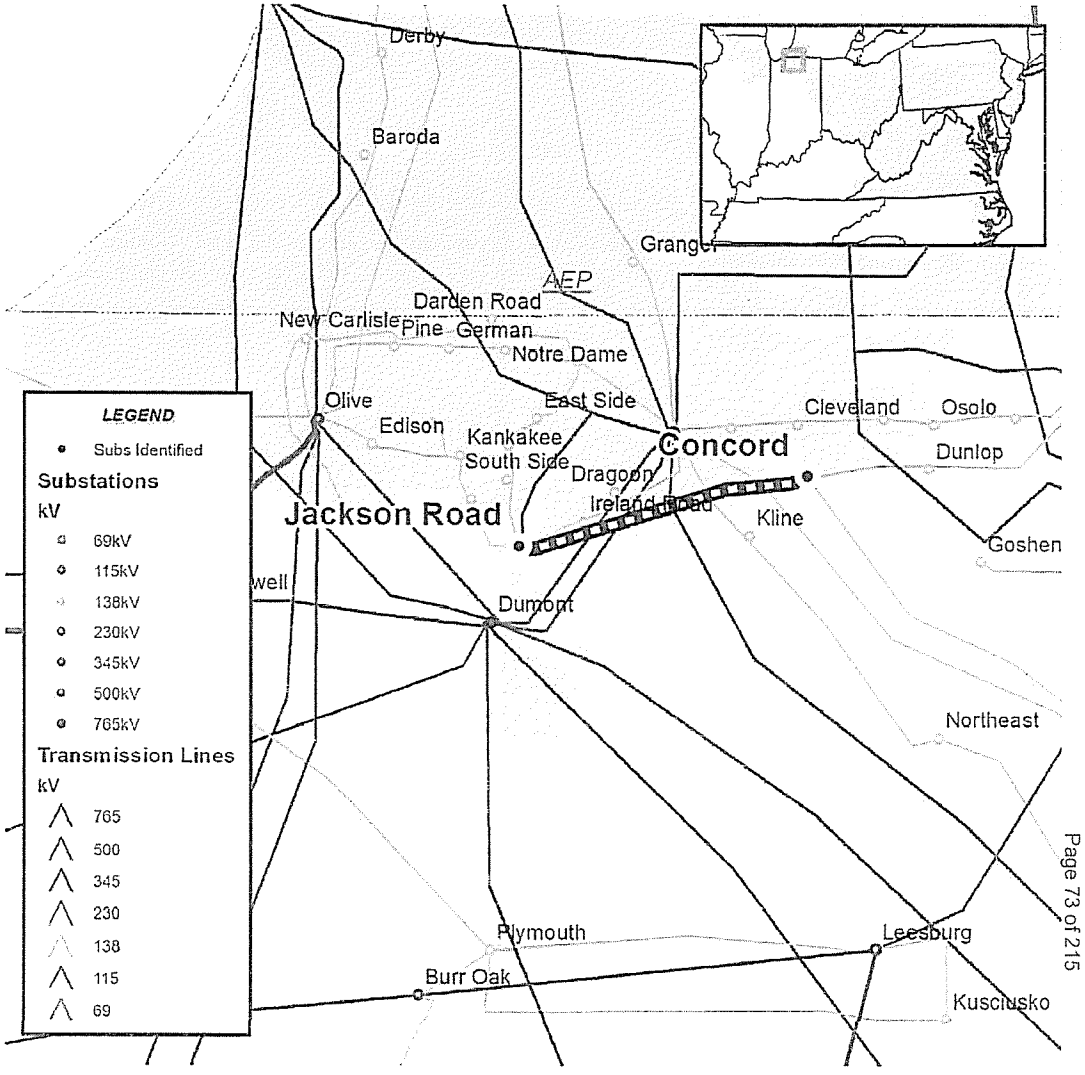
AEP Transmission Zone

- Common Mode Contingency Violation
- The Harper - Hacienda 138 kV line is overloaded for various common mode contingencies
- Recommended Solution: Perform a sag study on the Hacienda – Harper 138 kV line to increase the emergency rating (B1484)
- Estimated Project Cost: $0.0596 M
- Expected IS Date: 12/31/2013



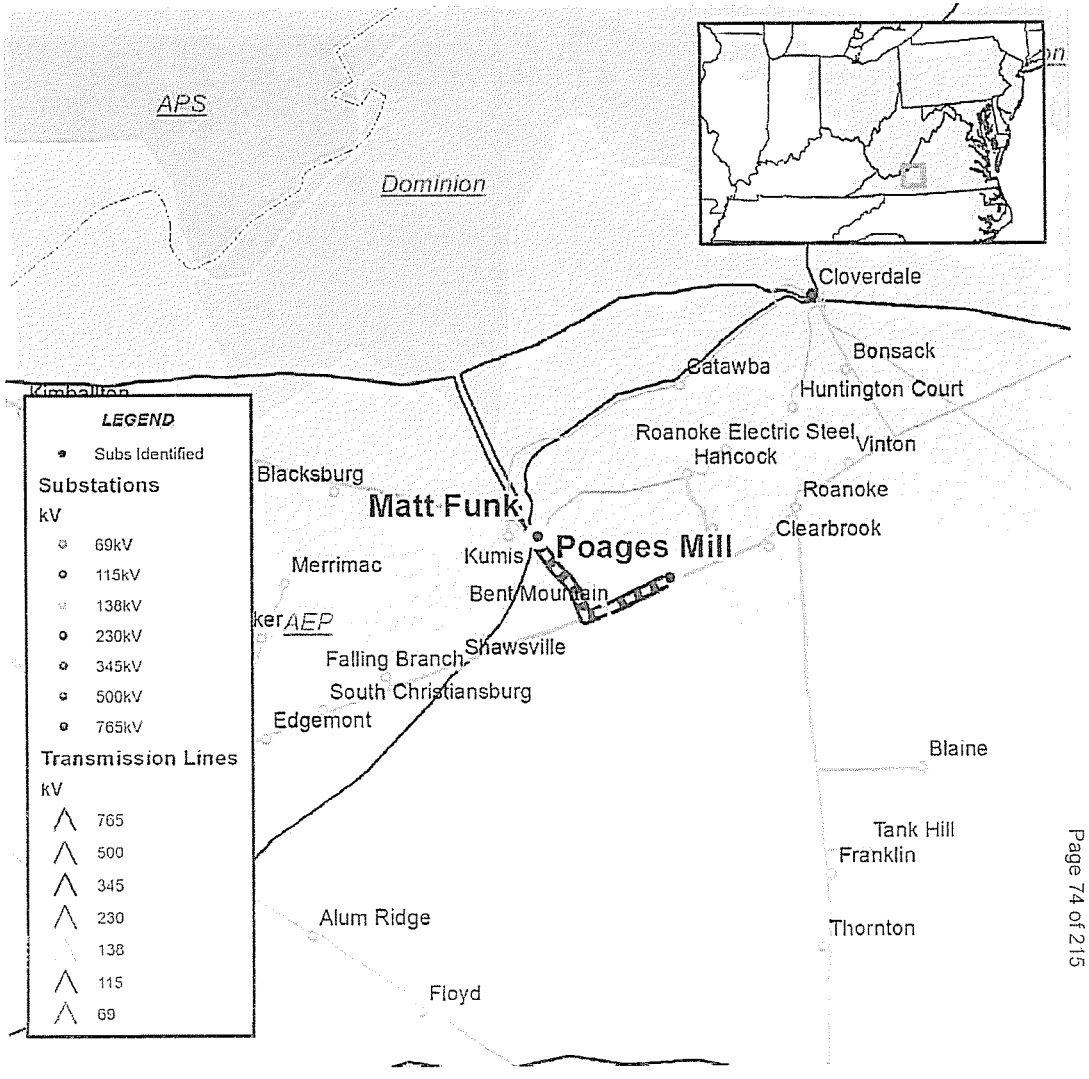
AEP Transmission Zone

- Common Mode Contingency Violation
- The Jackson Road-Concord 138 kV line is overloaded for various common mode contingencies
- Recommended Solution: Perform a sag study on the Jackson Road – Concord 138 kV line to increase the emergency rating (B1485)
- Estimated Project Cost: $0.087 M
- Expected IS Date: 12/31/2013



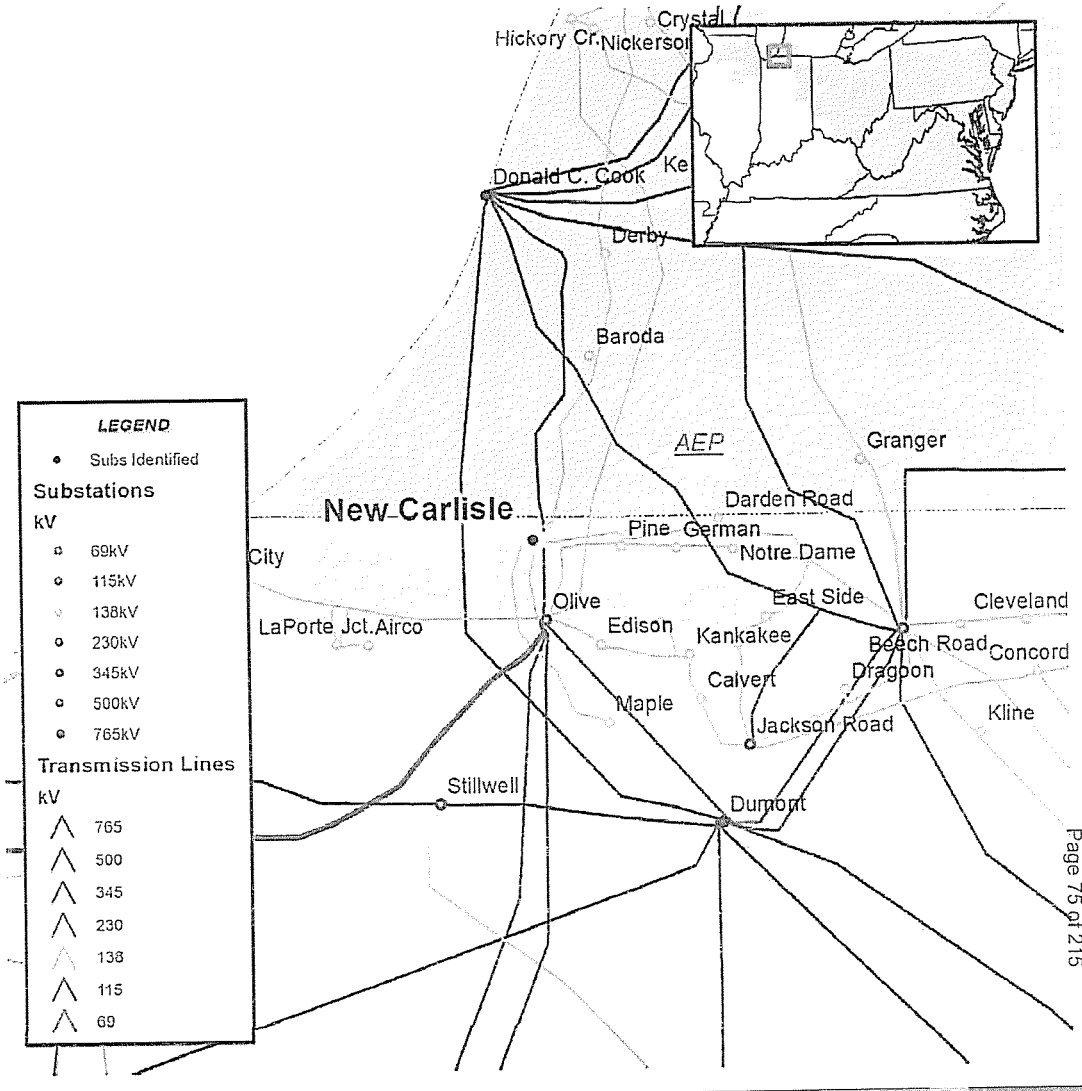
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Matt Funk - Poages Mill 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: The Matt Funk - Poages Mill – Starkey 138 kV line requires a sag study to determine if a higher emergency rating can be utilized (B1486)
- Estimated Project Cost: $0.032 M
- Expected IS Date: 12/31/2013



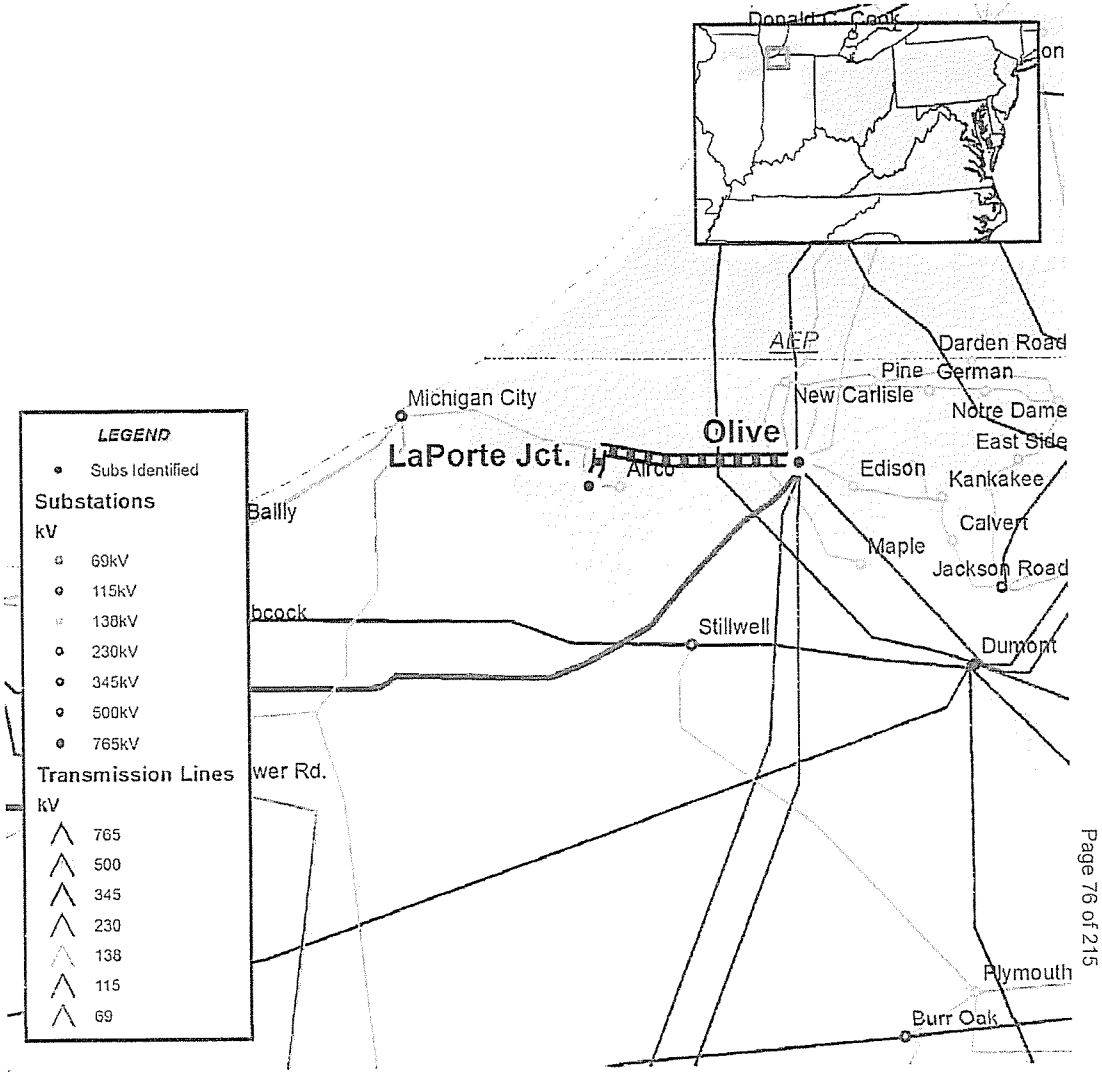
AEP Transmission Zone

- N-1-1 Thermal Violation
- The New Carlisle - Trail Creek Substation 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: Perform a sag study on the New Carlisle – Trail Creek 138 kV line to increase the emergency rating (B1487)
- Estimated Project Cost: $0.01 M
- Expected IS Date: 12/31/2013



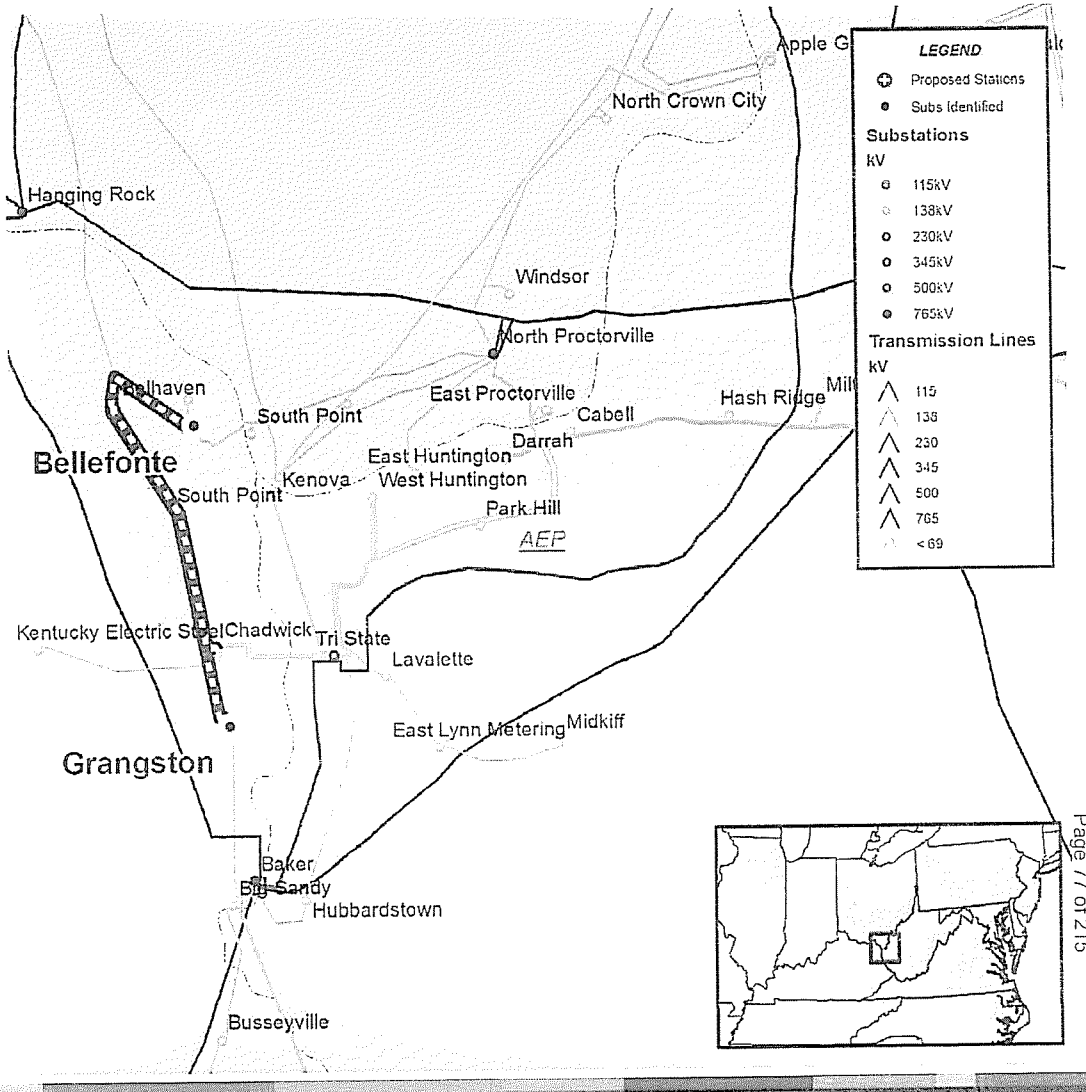
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Laporte - Olive 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: Perform a sag study on the Olive – LaPorte Junction 138 kV line to increase the emergency rating (B1488)
- Estimated Project Cost: $0.01 M
- Expected IS Date: 12/31/2013



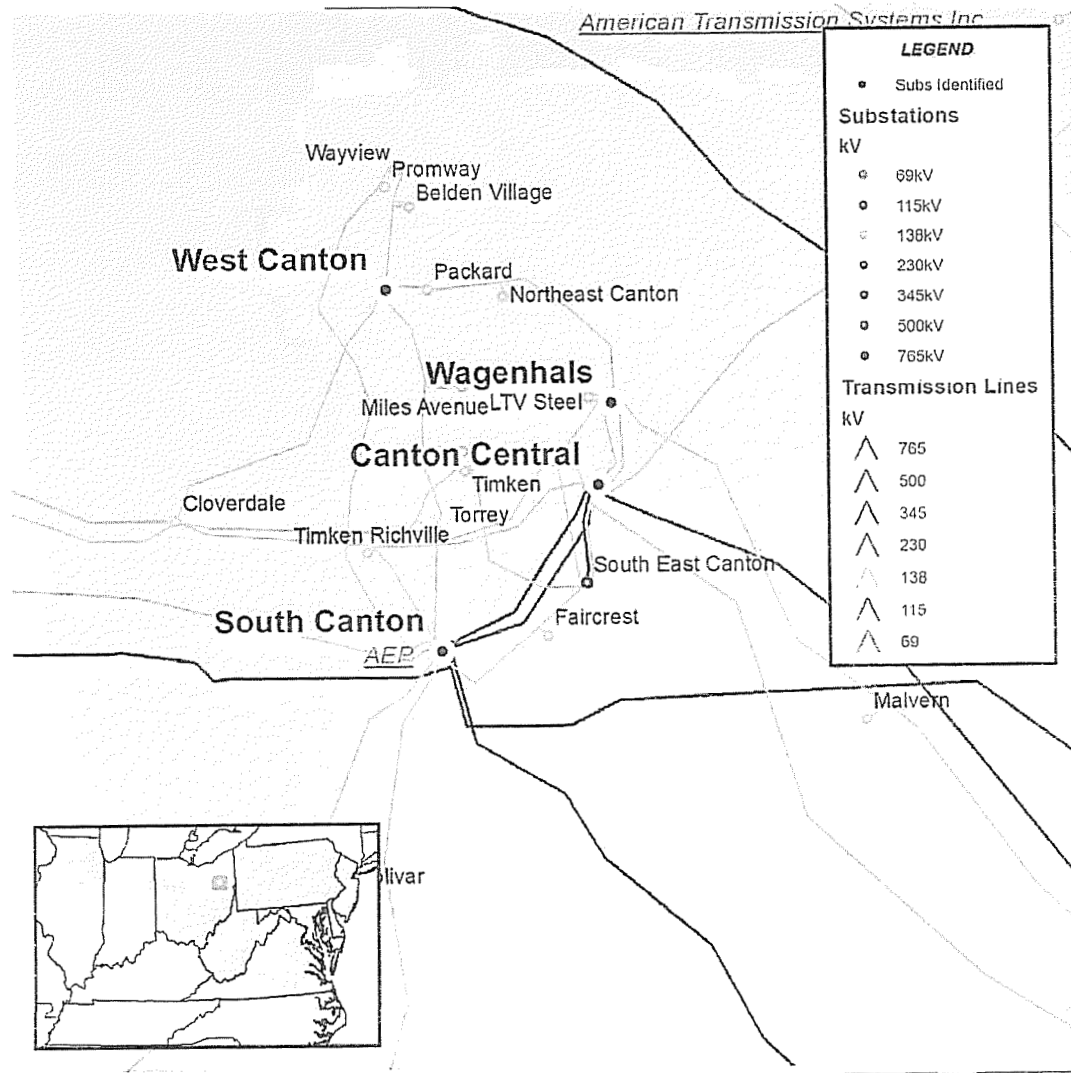
AEP Transmission Zone

- Generation Deliverability Violation
- The Grangston - Bellefonte 138 kV line is overloaded for the loss of Baker 765/345 kV transformer
- Recommended Solution: Perform a sag study for the Bellefonte – Grangston 138 kV line to increase its emergency rating (B1493)
- Estimated Project Cost: $0.07 M
- Expected IS Date: 12/31/2013



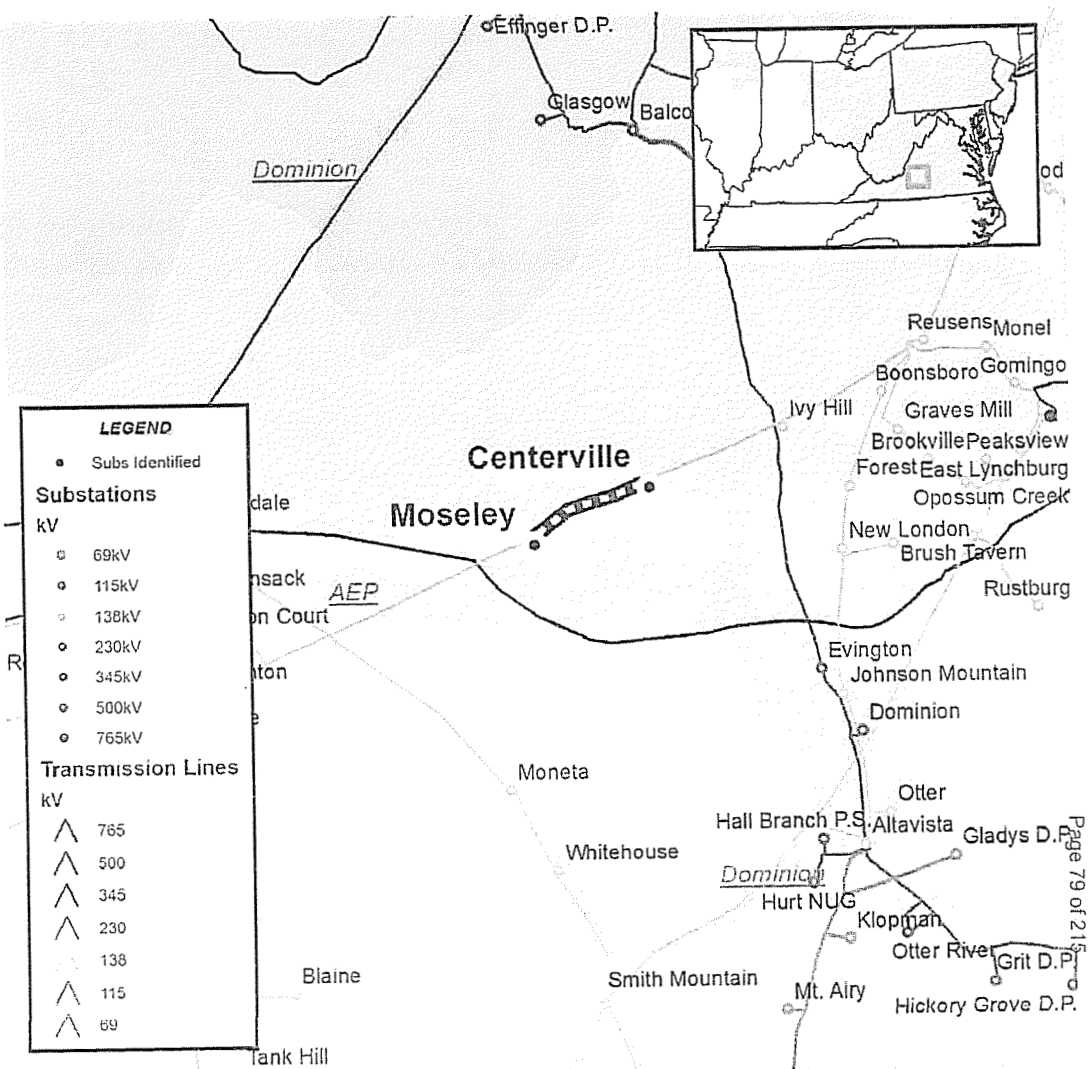
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Northeast Canton - Wagenhals 138 kV line is overloaded for the loss of the South Canton - West Canton 138 kV line and the loss of the South Canton – Negley - Reedurban 138 kV line and Negley - Negley Load 138 kV line
- Recommended Solution: The North East Canton - Wagenhals 138kV circuit would need an electrical clearance study to determine if the emergency rating can be utilized in order to fix Reliability N-2 Thermal overloads (B1500)
- Estimated Project Cost: $0.02 M
- Expected IS Date: 12/31/2013



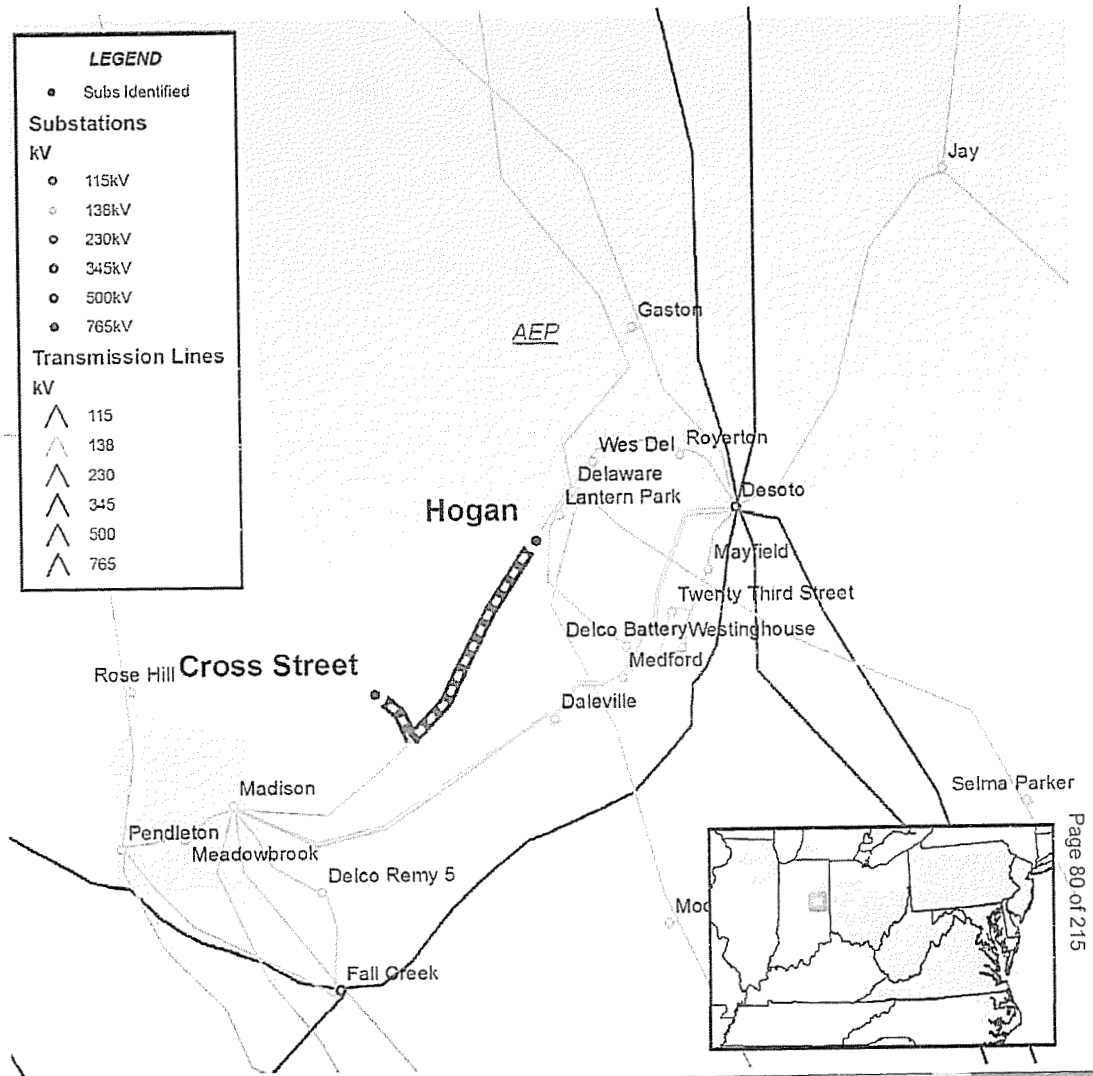
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Centerville - Moseley 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: The Moseley - Reusens 138 kV circuit requires a sag study to determine if the emergency rating can be utilized to address thermal a thermal loading issue for a category C3 contingency (B1501)
- Estimated Project Cost: $0.088 M
- Expected IS Date: 12/31/2013



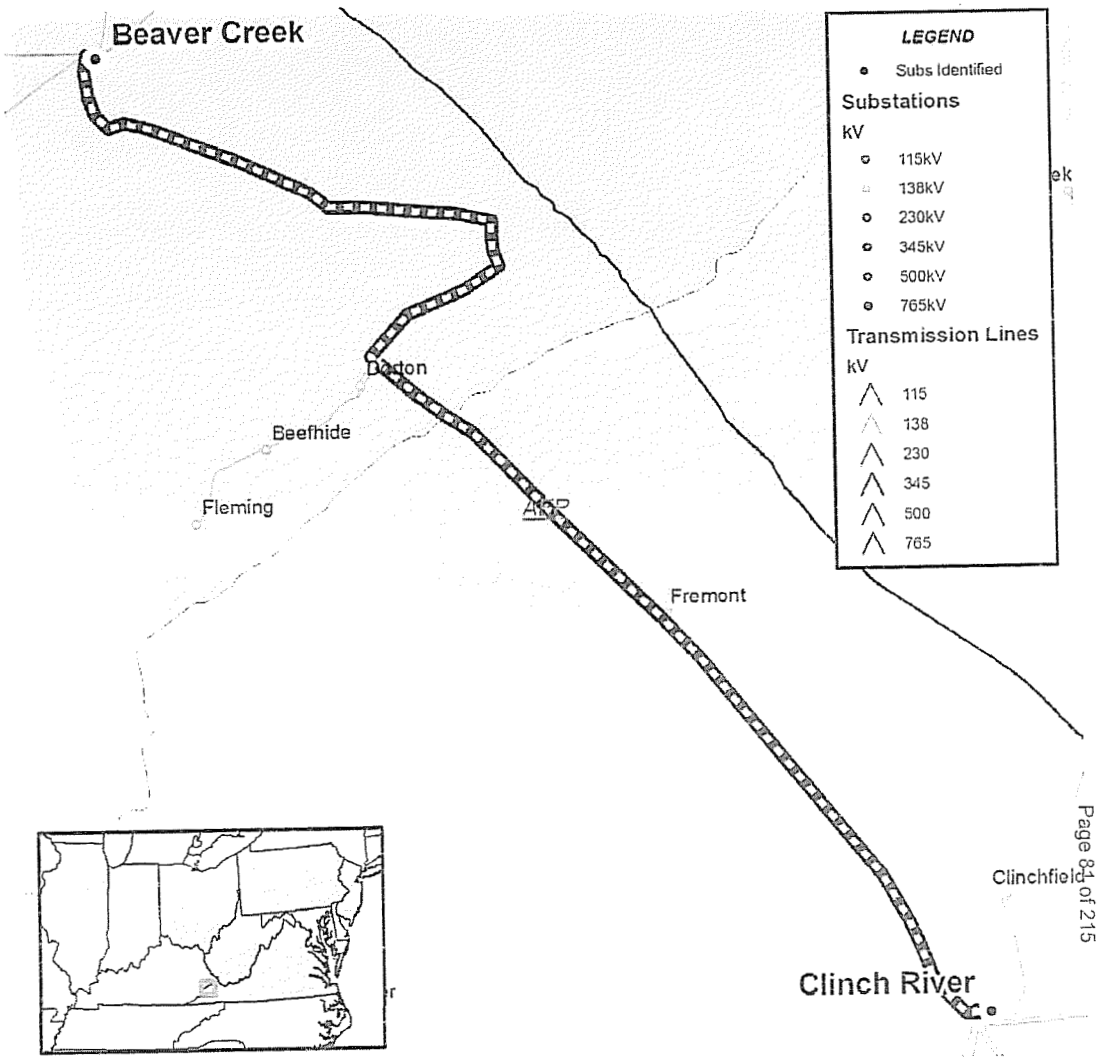
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Cross Street – Hogan 138 kV line is overloaded for the loss of the Madison - Daleville - Medford – Desoto 138 kV line, and the loss of Desoto 345/138 kV transformer
- Recommended Solution: Perform a sag study on the Delaware - Madison 138 kV line to increase the emergency rating (B1417)
- Estimated Project Cost: $0.0744 M
- Expected IS Date: 12/31/2011



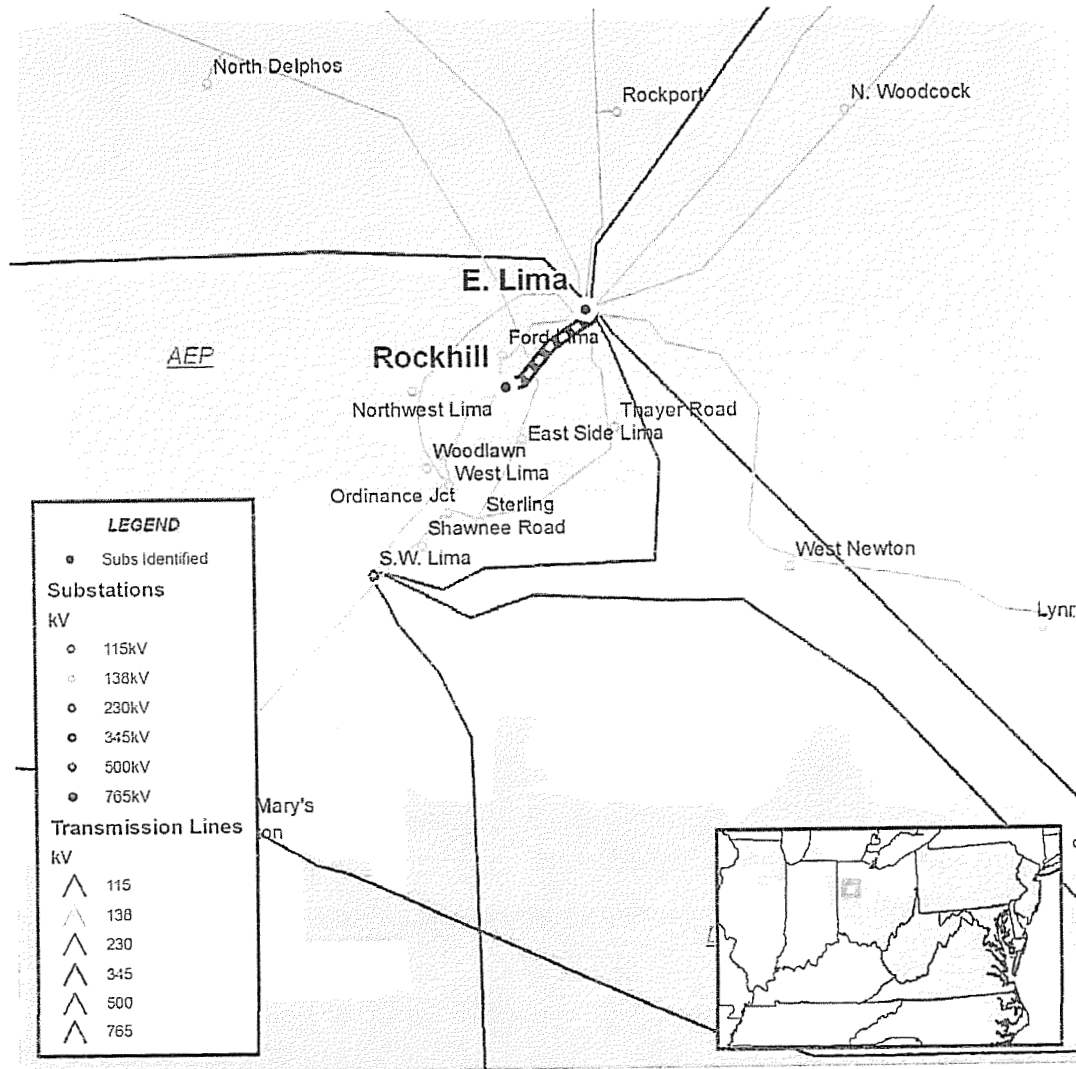
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Fremont – Clinch River 138 kV line is overloaded for the loss of the Big Sandy – Busseyville 138 kV line and the loss of the Clinch River - Dorton 138 kV line
- Recommended Solution: Sag studies may allow for operation of these circuits up to their conductor emergency ratings which would eliminate the overloads for the contingencies listed (B1429)
- Estimated Project Cost: $0.172 M
- Expected IS Date: 12/31/2011



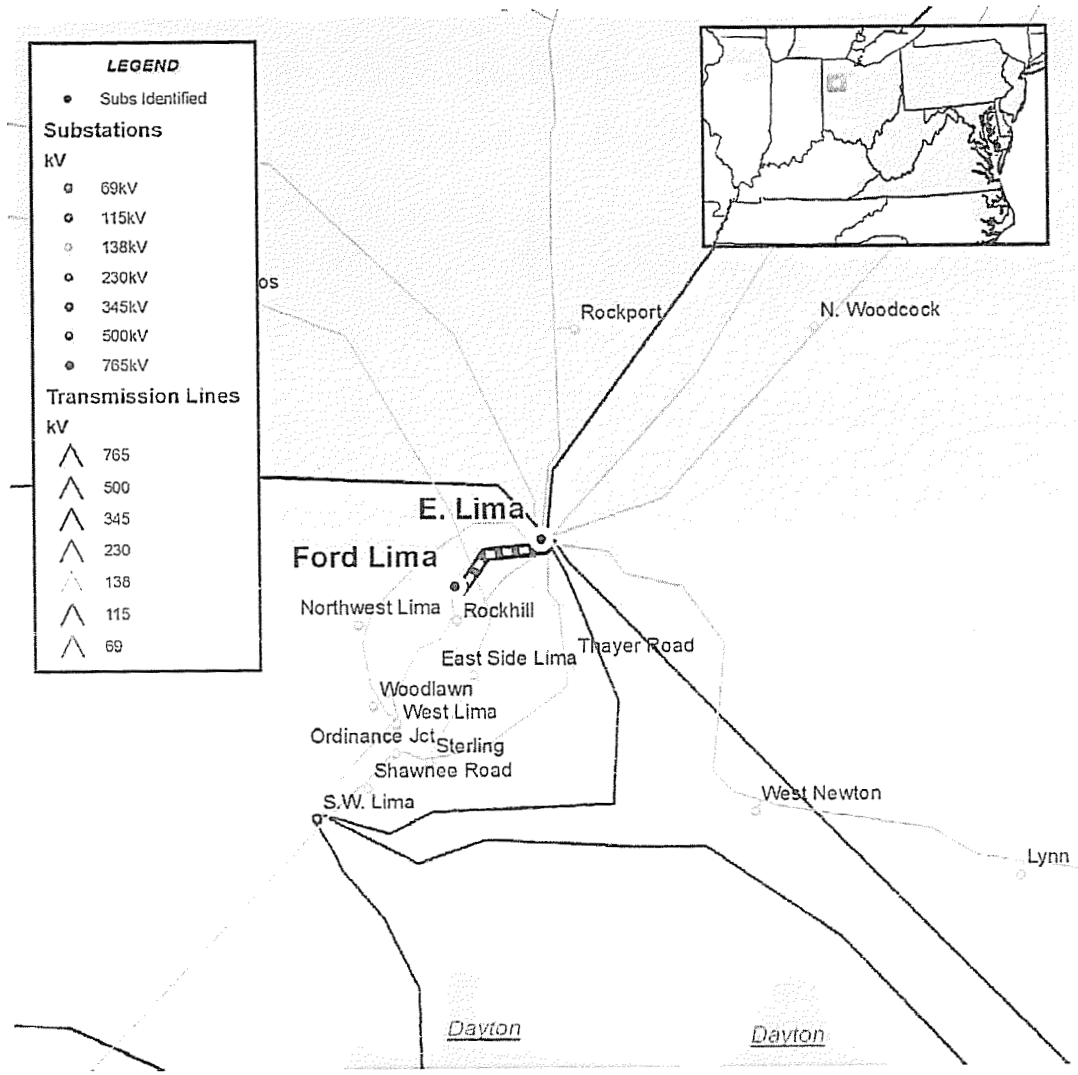
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Rockhill – East Lima138 kV line is overloaded for the loss of the Southwest Lima - West Lima 138 kV line and the loss of the East Lima - Ford Lima 138 kV line or for the loss of the Concord - Jackson Road 138 kV line (for rate A)
- Recommended Solution: a sag study will be required to increase the emergency rating. Depending on the outcome of this study, more action may be required in order to increase the rating. (B1418)
- Estimated Project Cost: $0.0176 M
- Expected IS Date: 12/31/2011



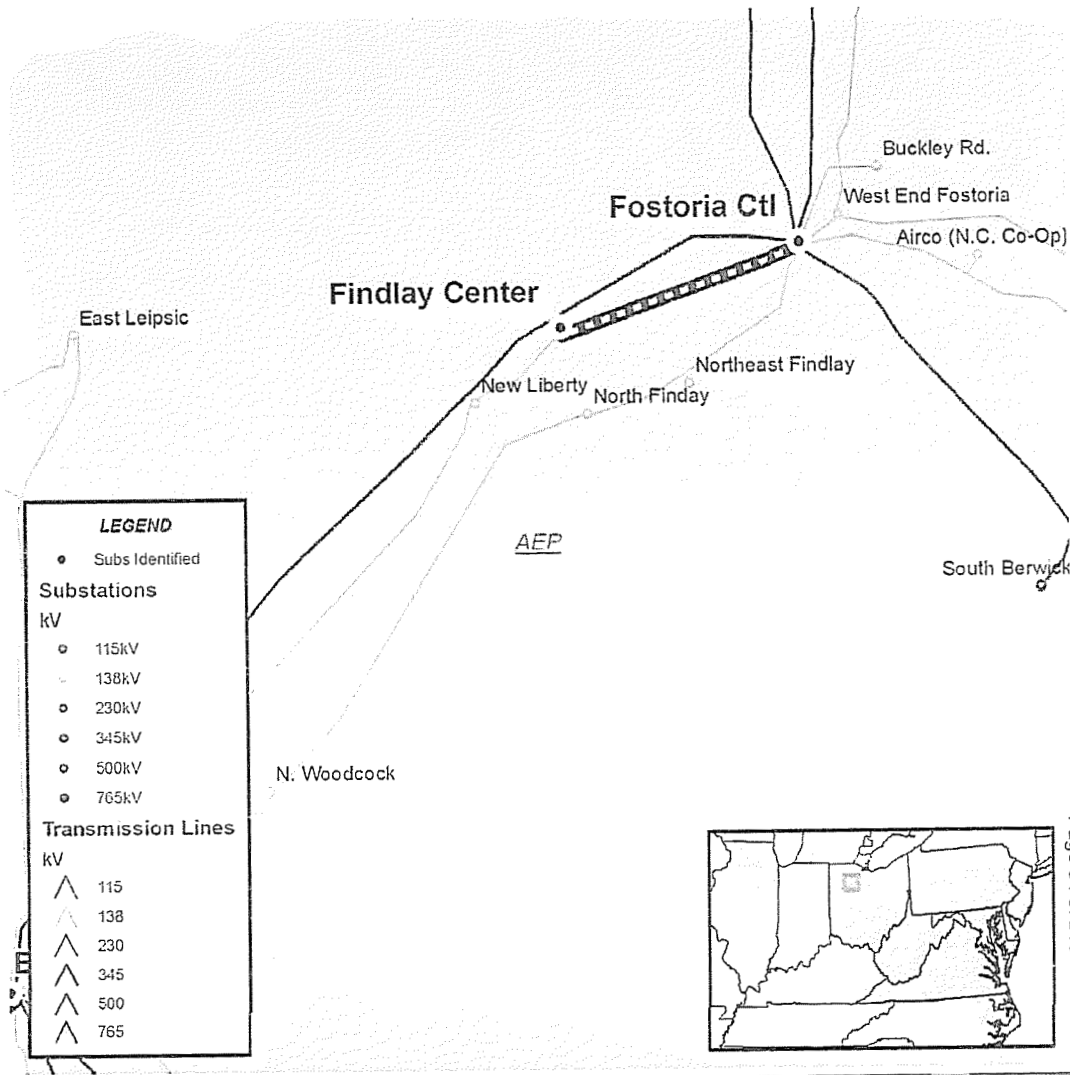
AEP Transmission Zone

- N-1-1 Thermal Violation
- The East Lima - Ford Lima 138 kV line is overloaded for various combinations of single contingencies
- Recommended Solution: Perform a sag study on the East Lima – Ford Lima – Rockhill 138 kV line to increase the emergency rating (B1471)
- Estimated Project Cost: $0.018 M
- Expected IS Date: 12/31/2012



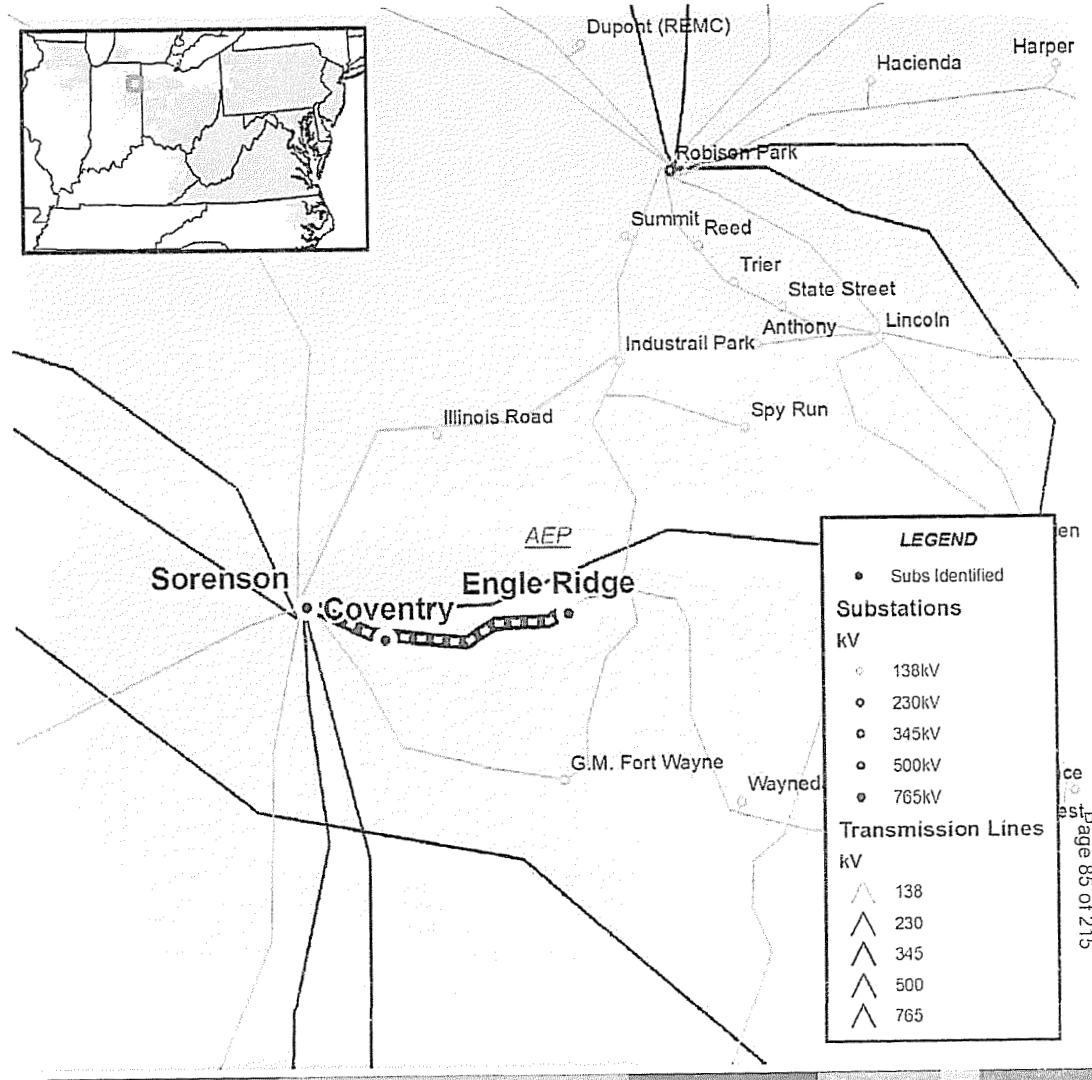
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Findlay Center – Fostoria Ctl 138 kV line is overloaded for the loss of the East Lima - New Liberty 138 kV line and the loss of Fostoria Central - Northeast Findlay Tap - North Findlay 138 kV line
- Recommended Solution: a sag study will be required to increase the emergency rating for this line. The section of line between Fostoria Central and Findlay Tap is only a section of the circuit that runs from Findlay Center to Fostoria Central to New Liberty, the entire circuit will have the sag study performed upon it – approximately 20.1 miles. (B1419)
- Estimated Project Cost: $0.0804 M
- Expected IS Date: 12/31/2011



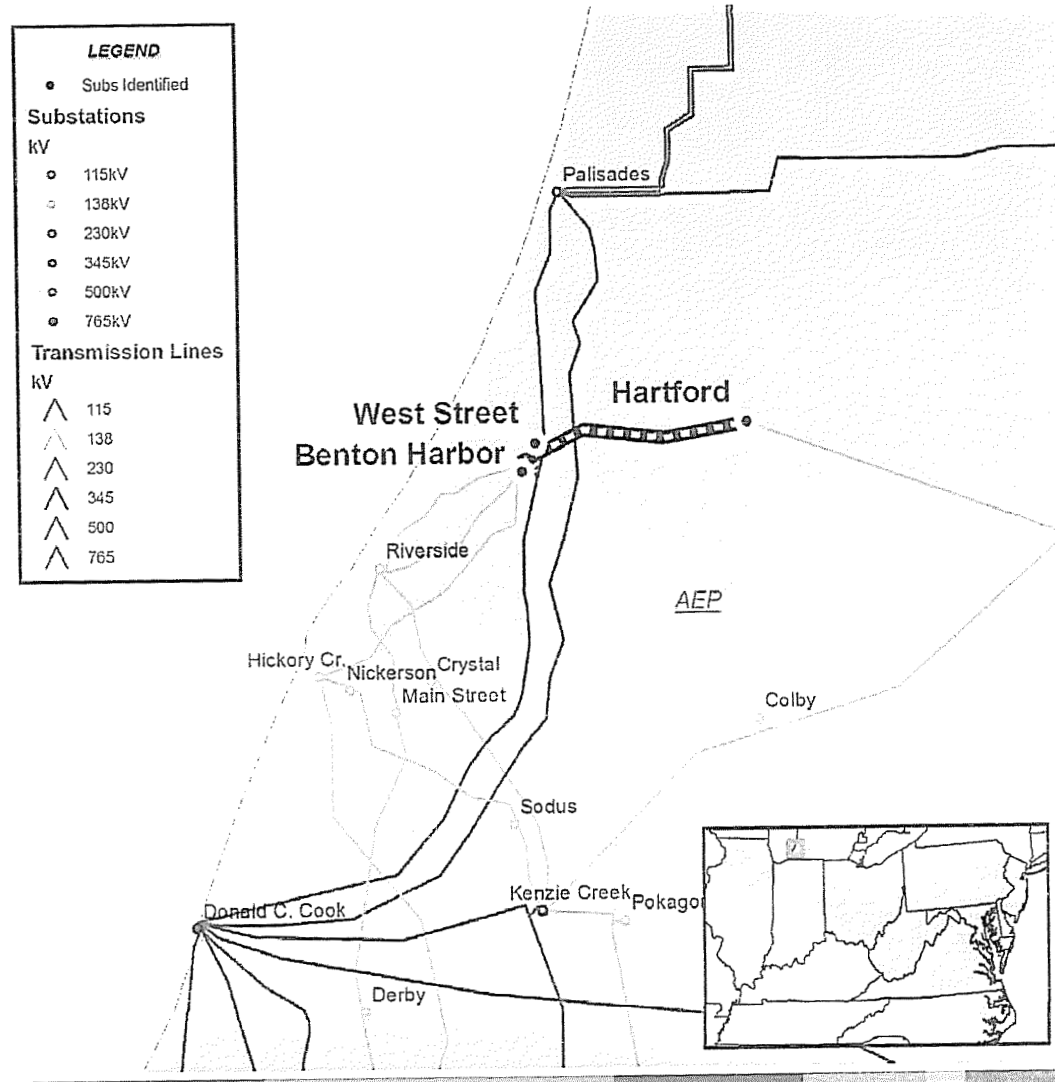
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Coventry – Engle Ridge – Sorenson 138 kV line is overloaded for the loss of the Sorenson - Illinois Road - Industrial Park 138 kV line and the loss of the Allen - Sorenson 345 kV line and Allen 345/138 kV transformer
- Potential Solution: Perform a sag study on the Sorenson - McKinley 138 kV line to increase the emergency rating (B1421)
- Estimated Project Cost: $0.0472 M
- Expected IS Date: 12/31/2011



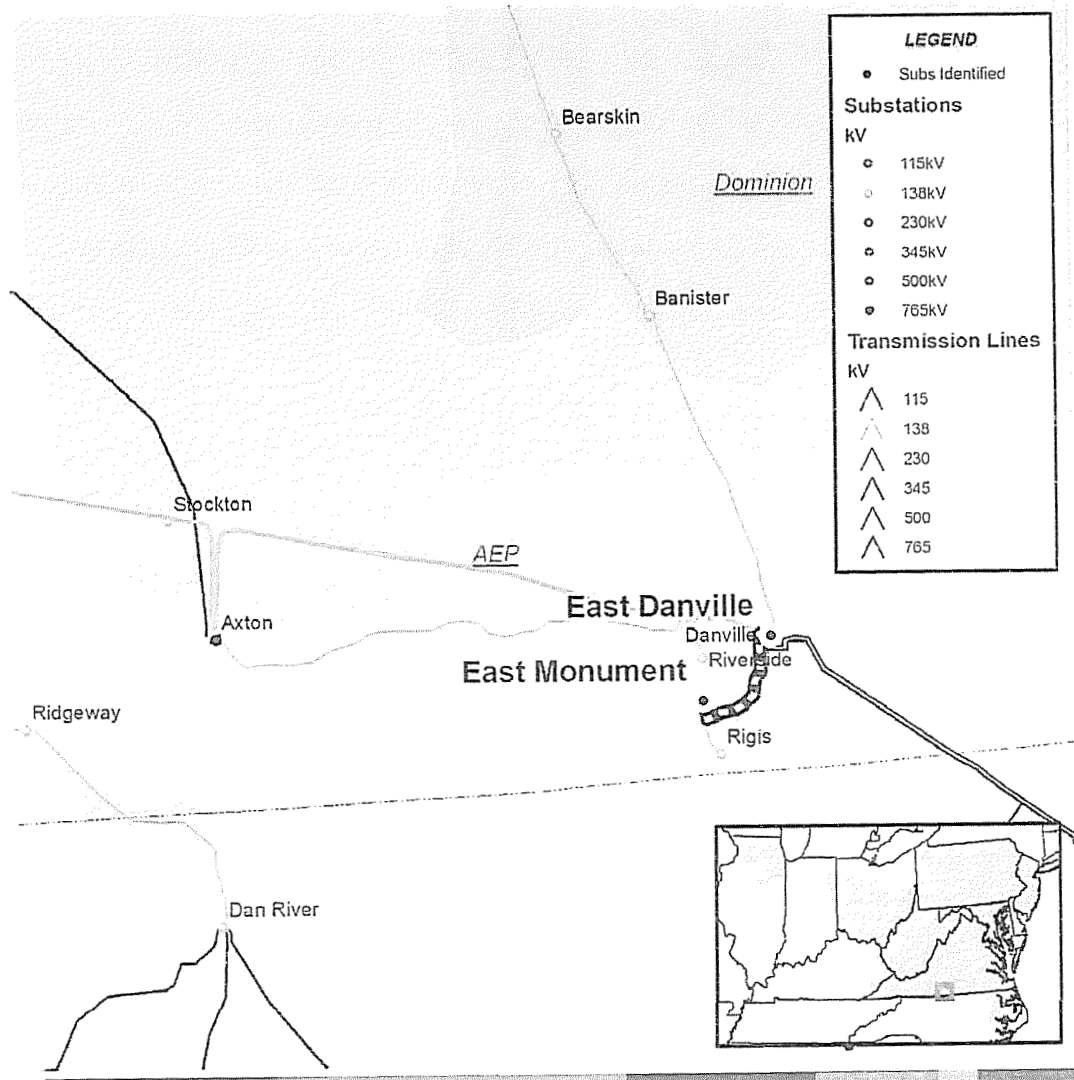
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Benton Harbor - West Street - Hartford 138 kV line is overloaded for the loss of the Corey - Mottville Tap - East Elkhart 138 kV line and the loss of Colby - Kenzie Creek 138 kV line
- Recommended Solution: Perform a sag study for the Benton Harbor – West Street – Hartford 138 kV line to improve the emergency rating (B1424)
- Estimated Project Cost: $0.05 M
- Expected IS Date: 12/31/2011



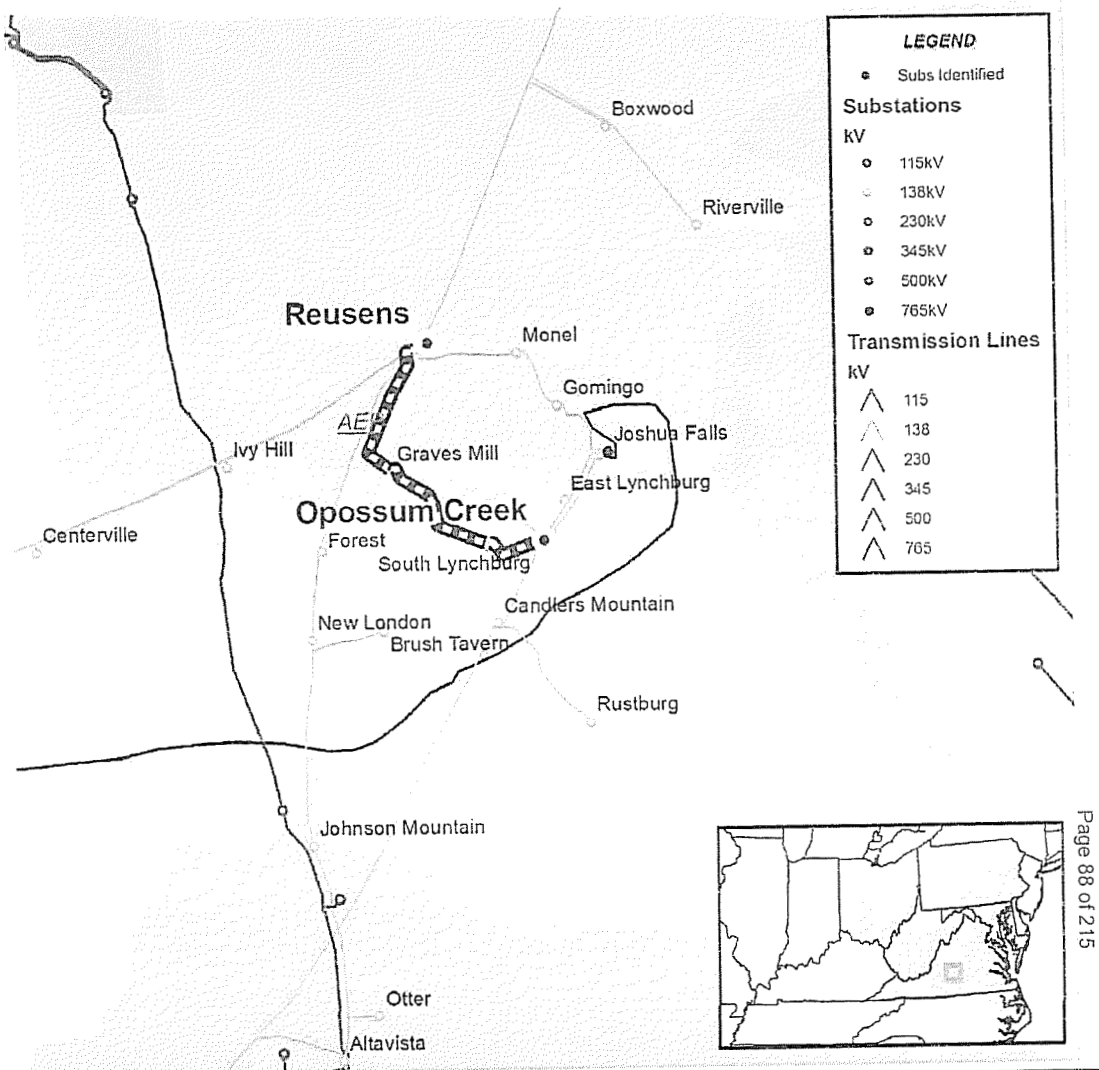
AEP Transmission Zone

- N-1-1 thermal violation
- The East Monument – East Danville 138 kV line is overloaded for the loss of the Danville - East Danville 138 kV line and East Danville 230/138 kV transformer and the loss of the Axton - Jacksons Ferry 765 kV line and Axton 765/138 kV transformer
- Recommended Solution: Sag studies may allow for operation of these circuits up to the conductor's maximum operating temperature which would eliminate the overloads for the contingencies listed (B1425)
- Estimated Project Cost: $0.016 M
- Expected IS Date: 12/31/2011



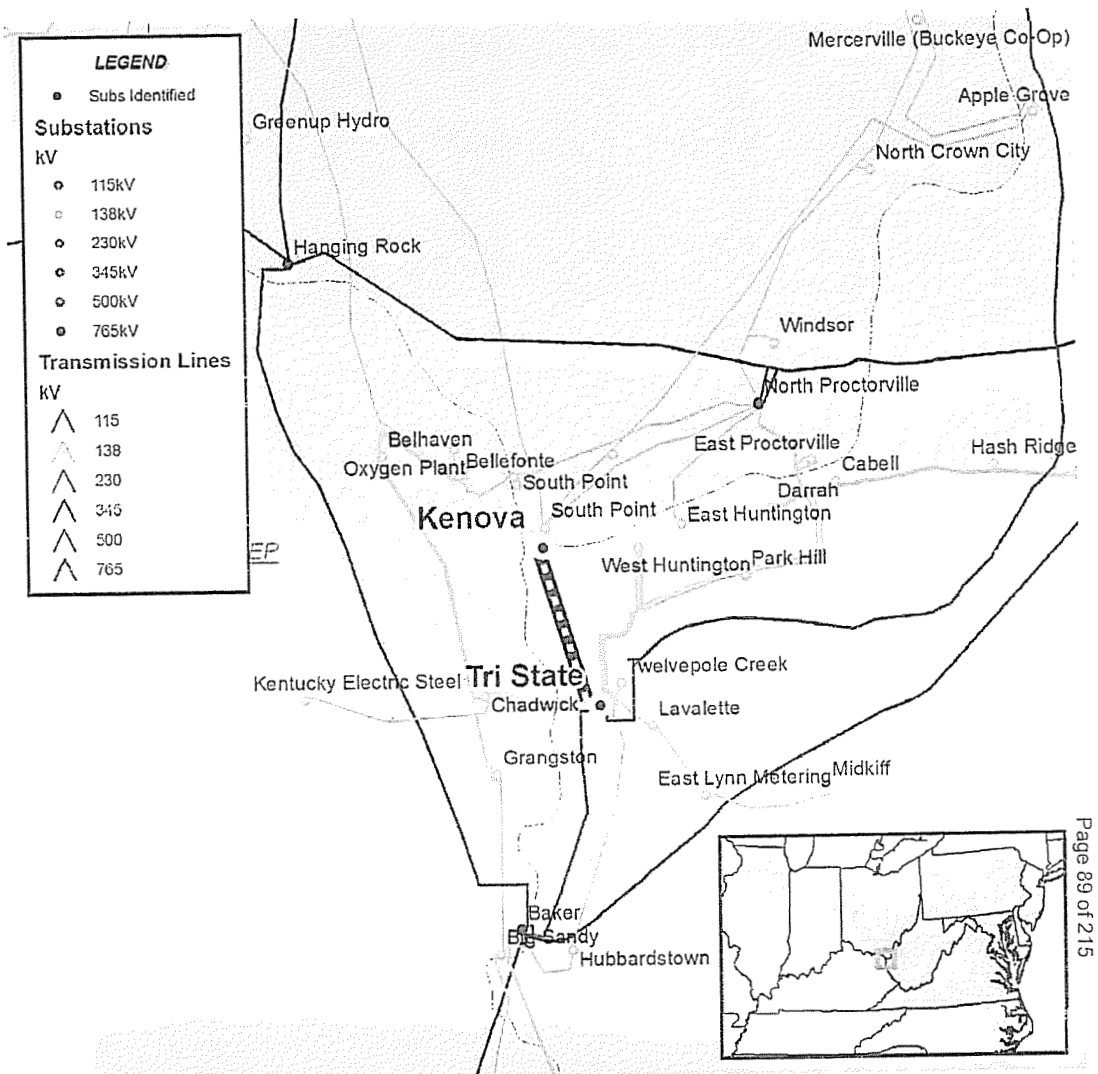
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Reusens – Graves 138 kV line is overloaded for the loss of the Joshua Falls - East Lynchburg 138 kV line and the loss of the Joshua Falls - Opossum Creek 138 kV line
- Recommended Solution: Sag studies may allow for operation of these circuits up to the conductor's maximum operating temperature which would eliminate the overloads for the contingencies listed (B1426)
- Estimated Project Cost: $0.020 M
- Expected IS Date: 12/31/2011



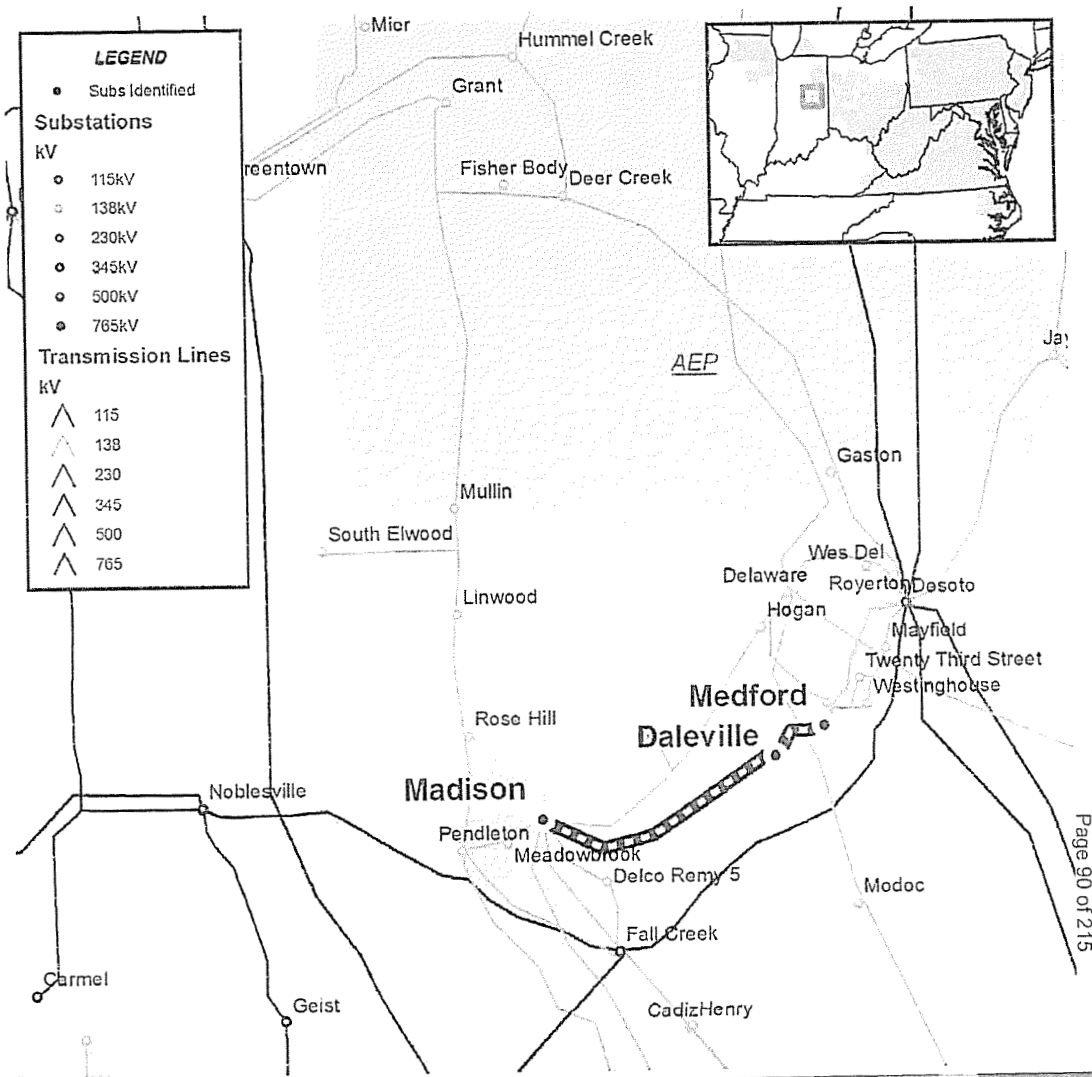
AEP Transmission Zone

- N-1-1 thermal violation
- The Kenova – Tri State 138 kV line is overloaded for the loss of the Davis Besse Unit 1 and the loss of Baker 765/345 kV transformer
- Recommended Solution: Sag studies may allow for operation of these circuits up to their conductor emergency ratings which would eliminate the overloads for the contingencies listed (B1432)
- Estimated Project Cost: $0.048 M
- Expected IS Date: 12/31/2011



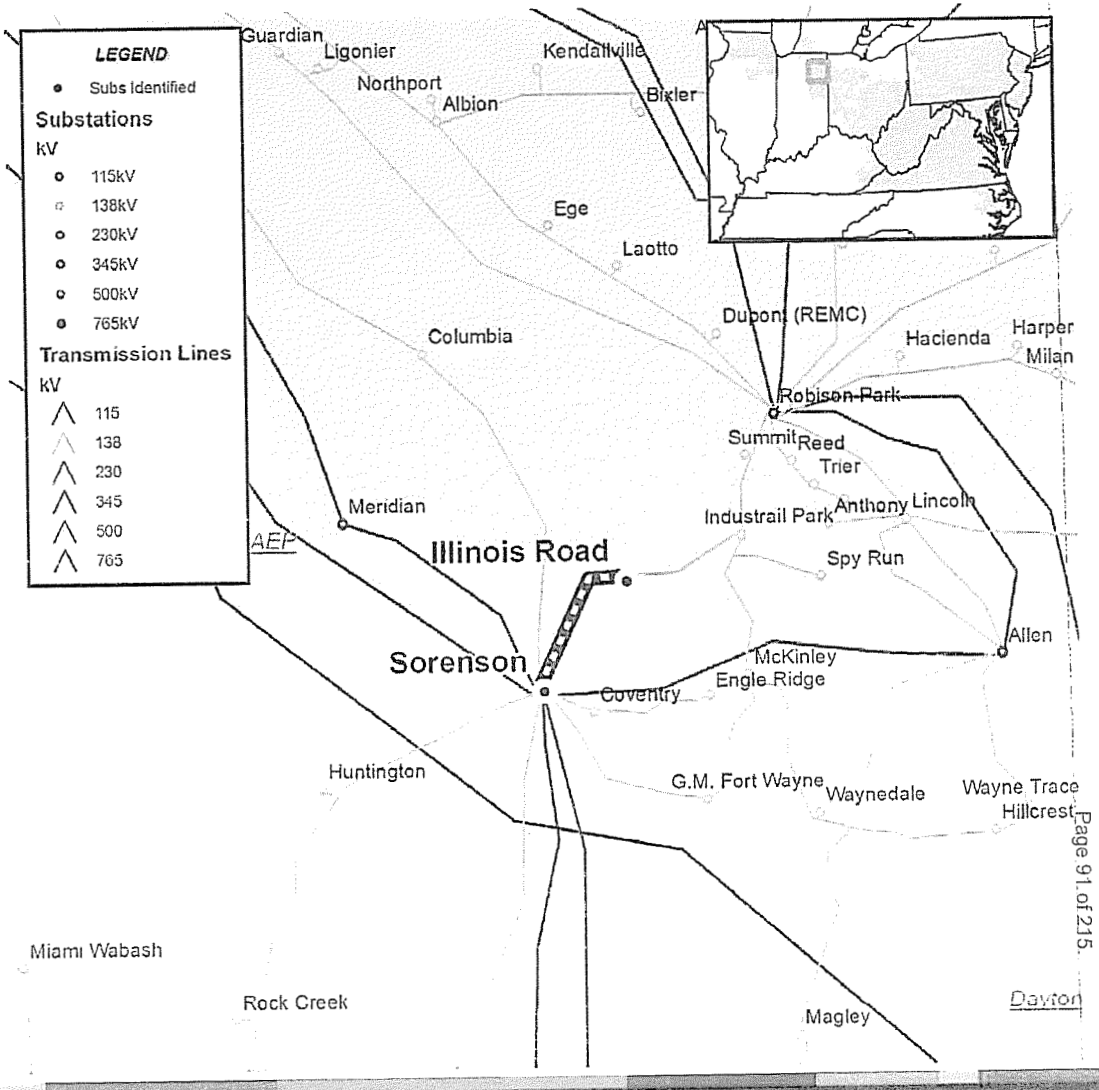
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Madison – Daleville – Medford 138 kV line is overloaded for the loss of the Hogan - Cross Street - Madison 138 kV line and the loss of Desoto 345/138 kV transformer
- Recommended Solution: Perform a sag study on the line from Desoto to Madison. Depending on the outcome, additional measures may be taken to increase the rating; Replace bus and risers at Daleville station; Replace bus and risers at Madison station (B1434)
- Estimated Project Cost: $0.5 M
- Expected IS Date: 12/31/2011



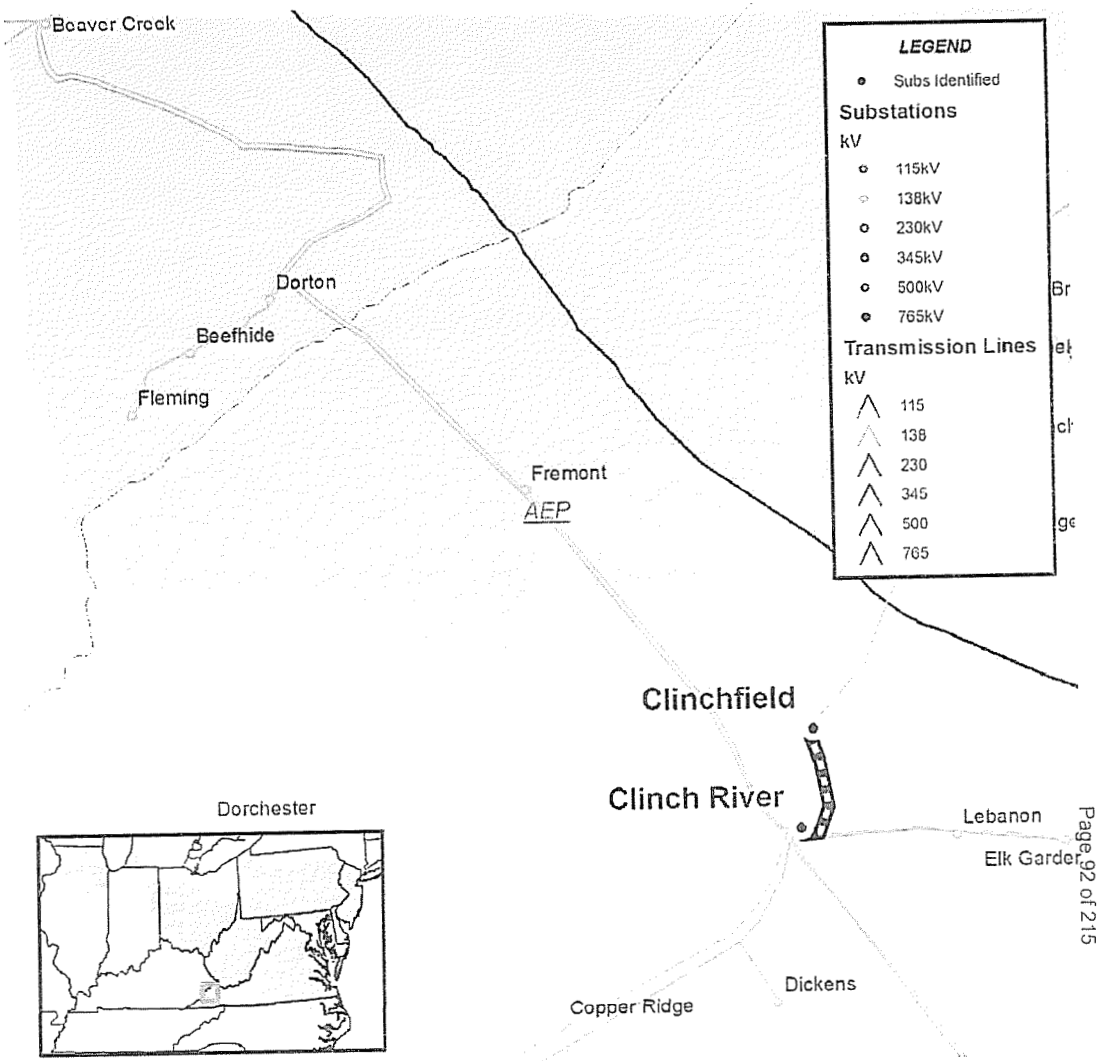
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Sorenson – Illinois Road 138 kV line is overloaded for the loss of the Sorenson - Coventry Tap - Engle Ridge - Mckinley 138 kV line and the loss of the Allen – Sorenson 345 kV line and Allen 345/138 kV transformer
- Recommended Solution: a sag study will be required to increase the emergency MOT for this line and station work at Illinois Road to replace bus and risers. Depending on the outcome of the sag study, more action may be required in order to increase the rating. Because the section of line between Illinois Road and Sorenson is only a section of the circuit that runs from Industrial Park to Sorenson, the entire circuit will have the sag study performed upon it – approximately 19.4 miles (B1436)
- Estimated Project Cost: $0.2 M
- Expected IS Date: 12/31/2011



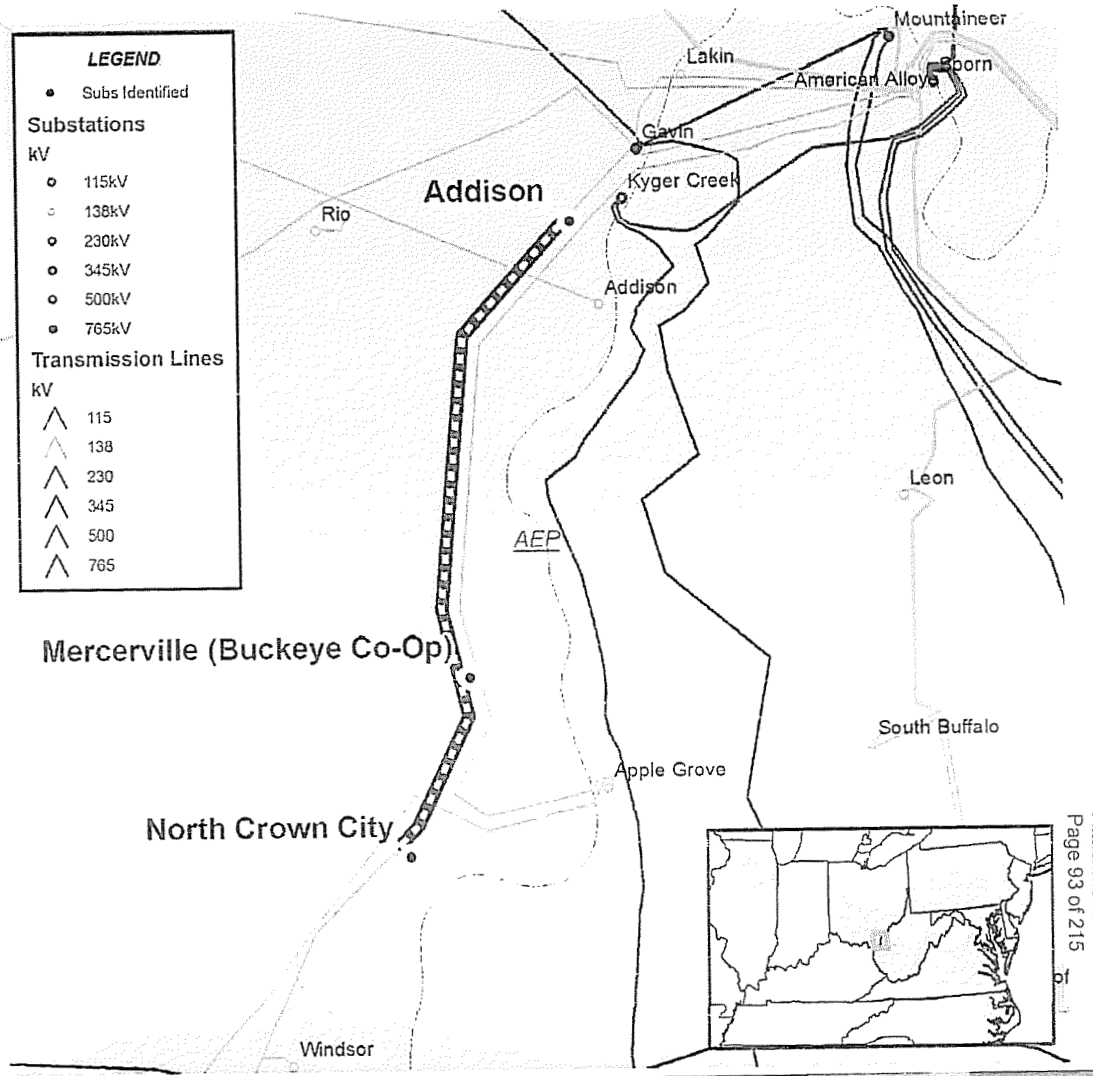
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Clinch River – Clinchfield 138 kV line is overloaded for the loss of the Clinch River – Dorton 138 kV line and the Clinch River – Fremont 138 kV line
- Recommended Solution: Perform electrical clearance studies (a.k.a. sag studies) to determine if the emergency rating can be utilized (B1444)
- Estimated Project Cost: $0.096 M
- Expected IS Date: 12/31/2012



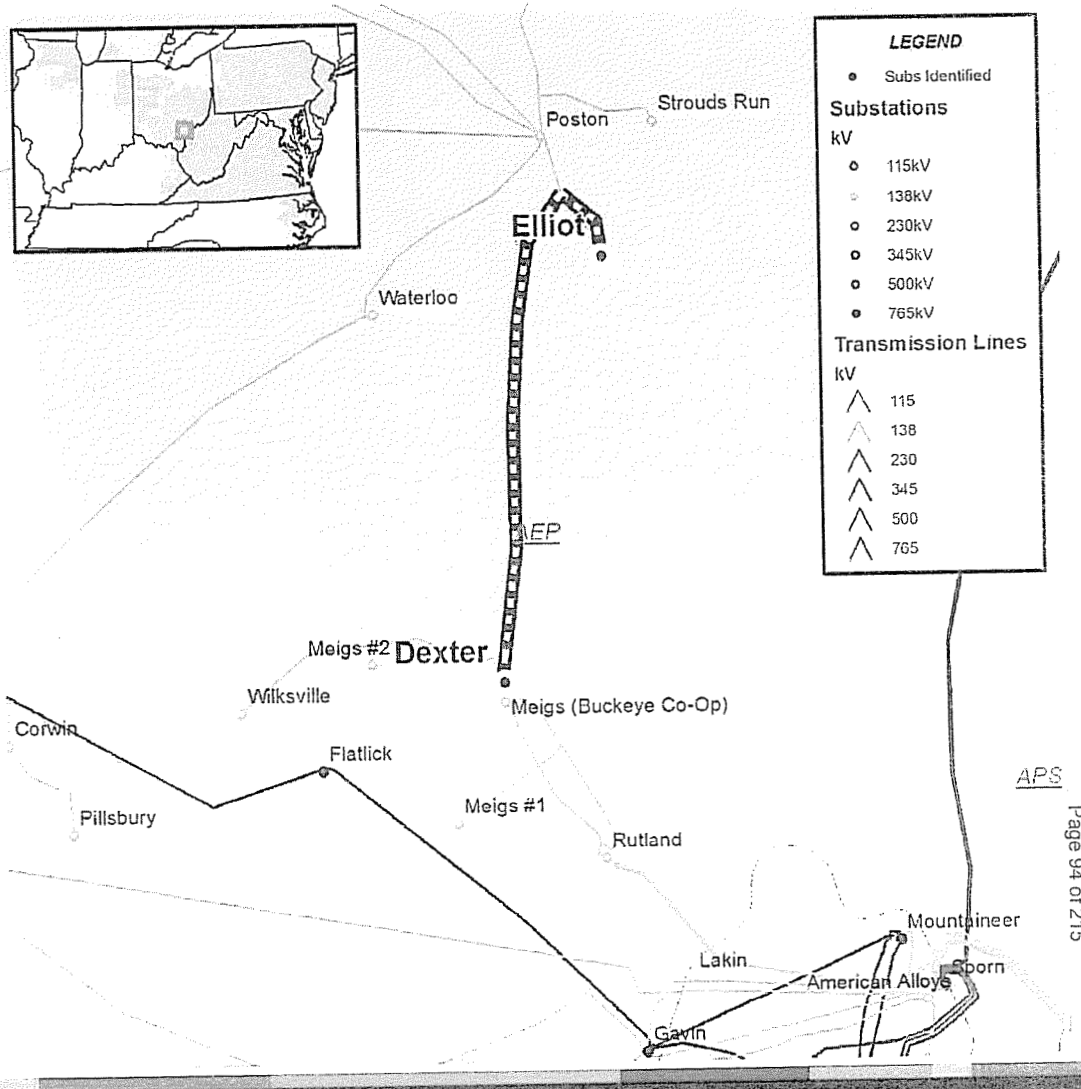
AEP Transmission Zone

- N-1-1 Thermal Violation
- The North Crown City – Mercerville – Addison 138 kV line is overloaded for the loss of the Marysville 765/345 kV transformer and the Tangy - Marysville 345 kV line and the loss of Sporn 345/138 kV transformer, Sporn A - Sporn A 138 kV line, Sporn A- Sporn A 138 kV line
- Recommended Solution: Perform a sag study on the Addison (Buckeye CO-OP) – Thivener and North Crown City – Thivener 138 kV sag study and switch (B1445)
- Estimated Project Cost: $0.08 M
- Expected IS Date: 12/31/2012



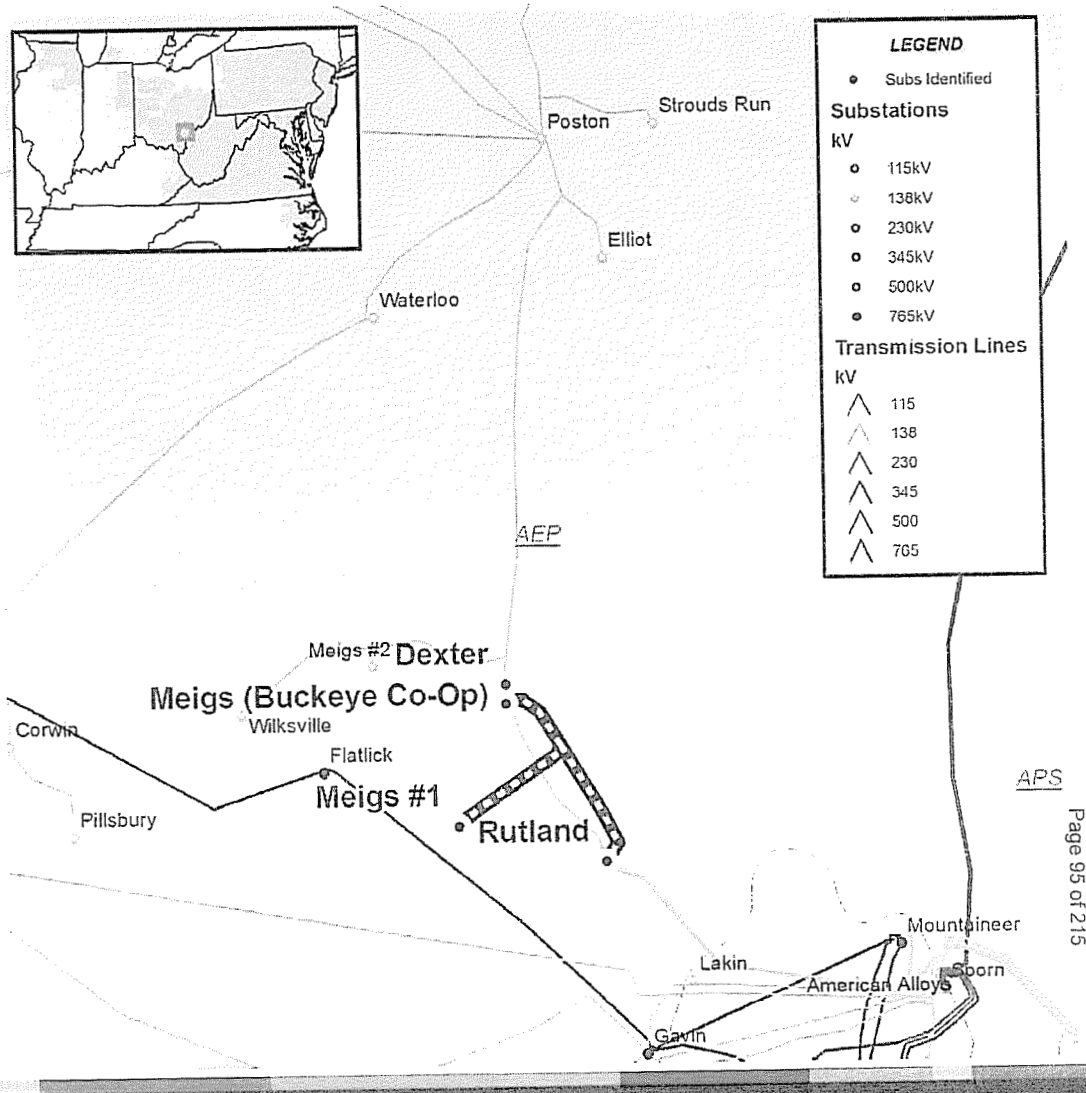
AEP Transmission Zone

- Generator Deliverability Violation
- The Dexter – Elliot tap 138 kV line is overloaded for the Muskingum – Waterford 345 kV line fault with the stuck breaker at Muskingum
- Recommended Solution: Dexter – Elliot tap 138 kV sag check (B1447)
- Estimated Project Cost: $0.0672 M
- Expected IS Date: 12/31/2012



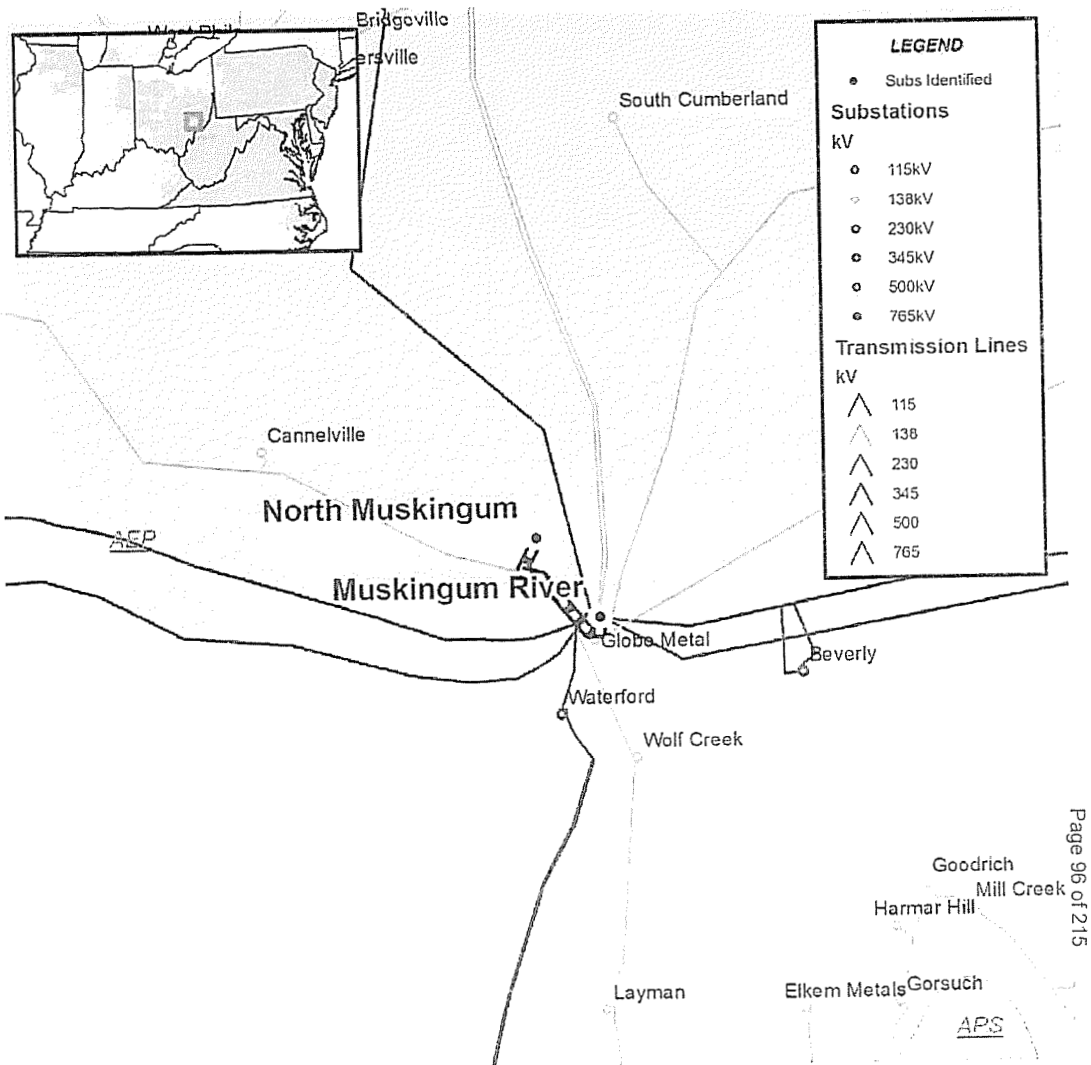
AEP Transmission Zone

- Baseline Thermal Violation
- The Meigs Tap – Rutland 138 kV line is overloaded for the Muskingum – Waterford 345 kV line fault with the stuck breaker at Muskingum
- Recommended Solution: Meigs tap – Rutland 138 kV sag check (B1449)
- Estimated Project Cost: $0.01964 M
- Expected IS Date: 12/31/2012



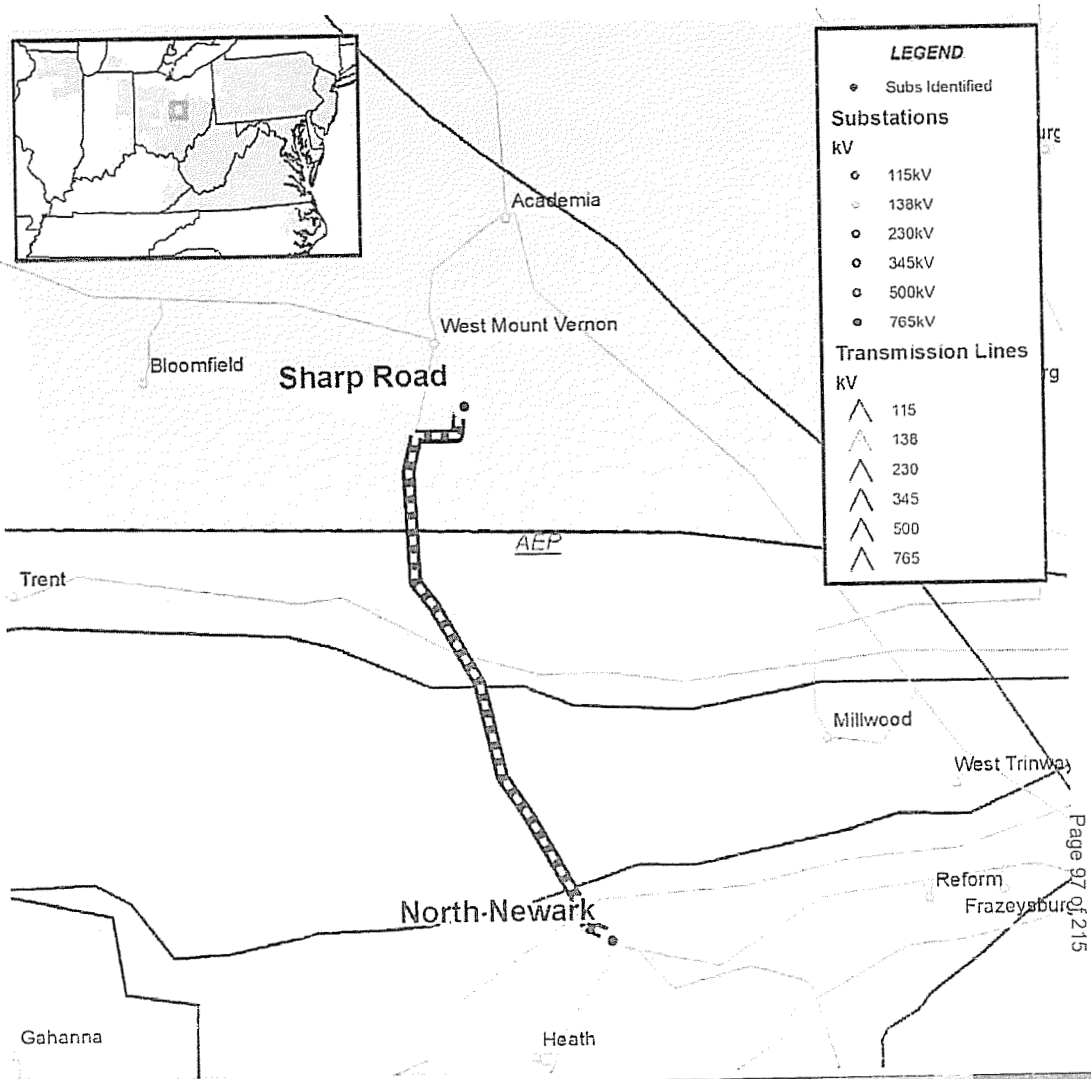
AEP Transmission Zone

- N-1-1 Thermal Violation
- The North Muskingum – Muskingum River 138 kV line is overloaded for the loss of Kammer - Maliszewski - Marysville 765 kV line and Maliszewski 765/138 kV transformer and the loss of Ohio Central - Muskingum River 345 kV line
- Recommended Solution: Muskingum – North Muskingum 138 kV sag check (B1450)
- Estimated Project Cost: $0.0148 M
- Expected IS Date: 12/31/2012



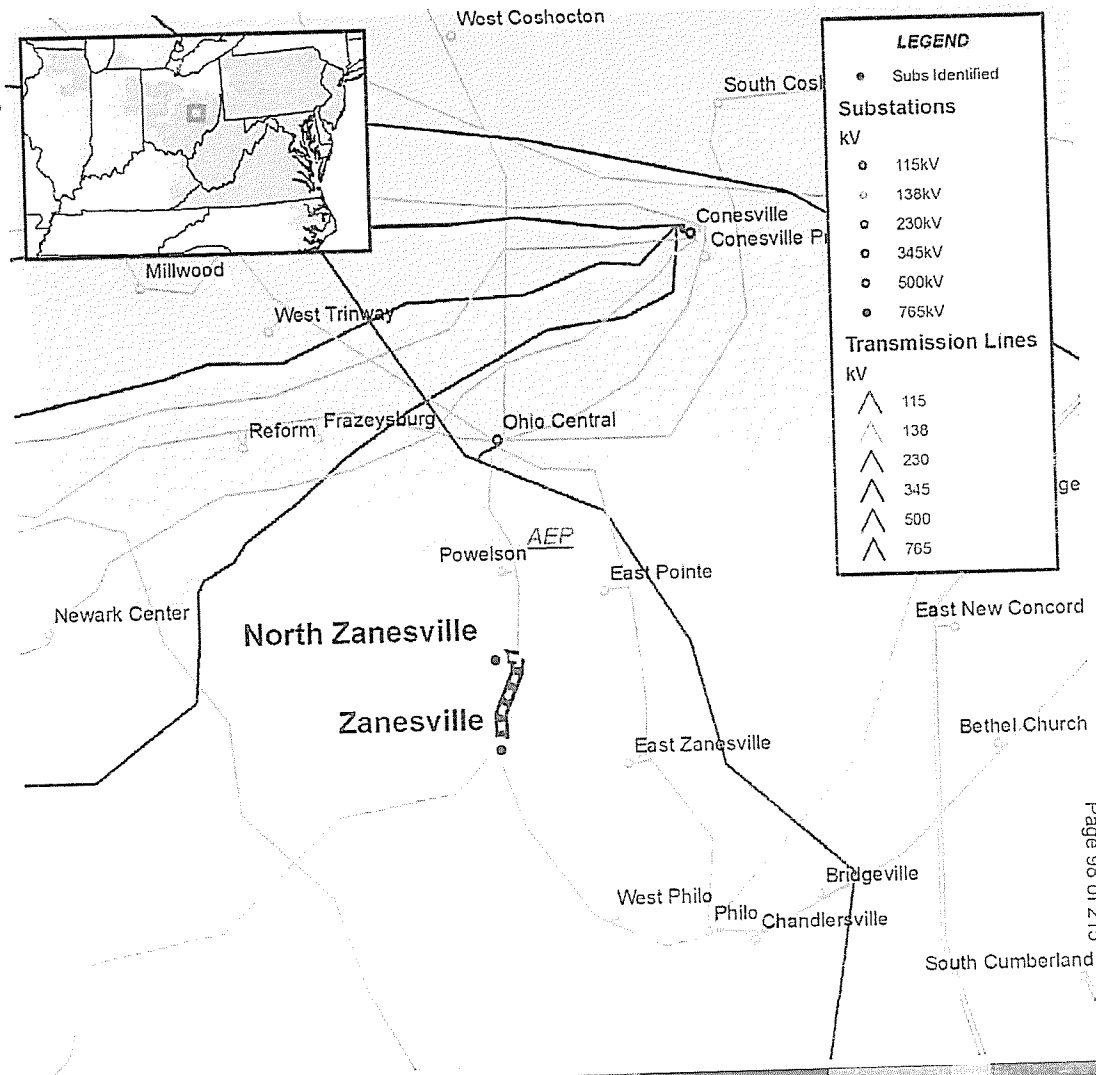
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Sharp Road – North Newark 138 kV line is overloaded for the loss of the East Lima - West Newton – Lynn - South Kenton 138 kV line and the loss of Academia - West Trinway - Ohio Central 138 kV line
- Recommended Solution: North Newark – Sharp Road 138 kV sag check (B1451)
- Estimated Project Cost: $0.0776 M
- Expected IS Date: 12/31/2012



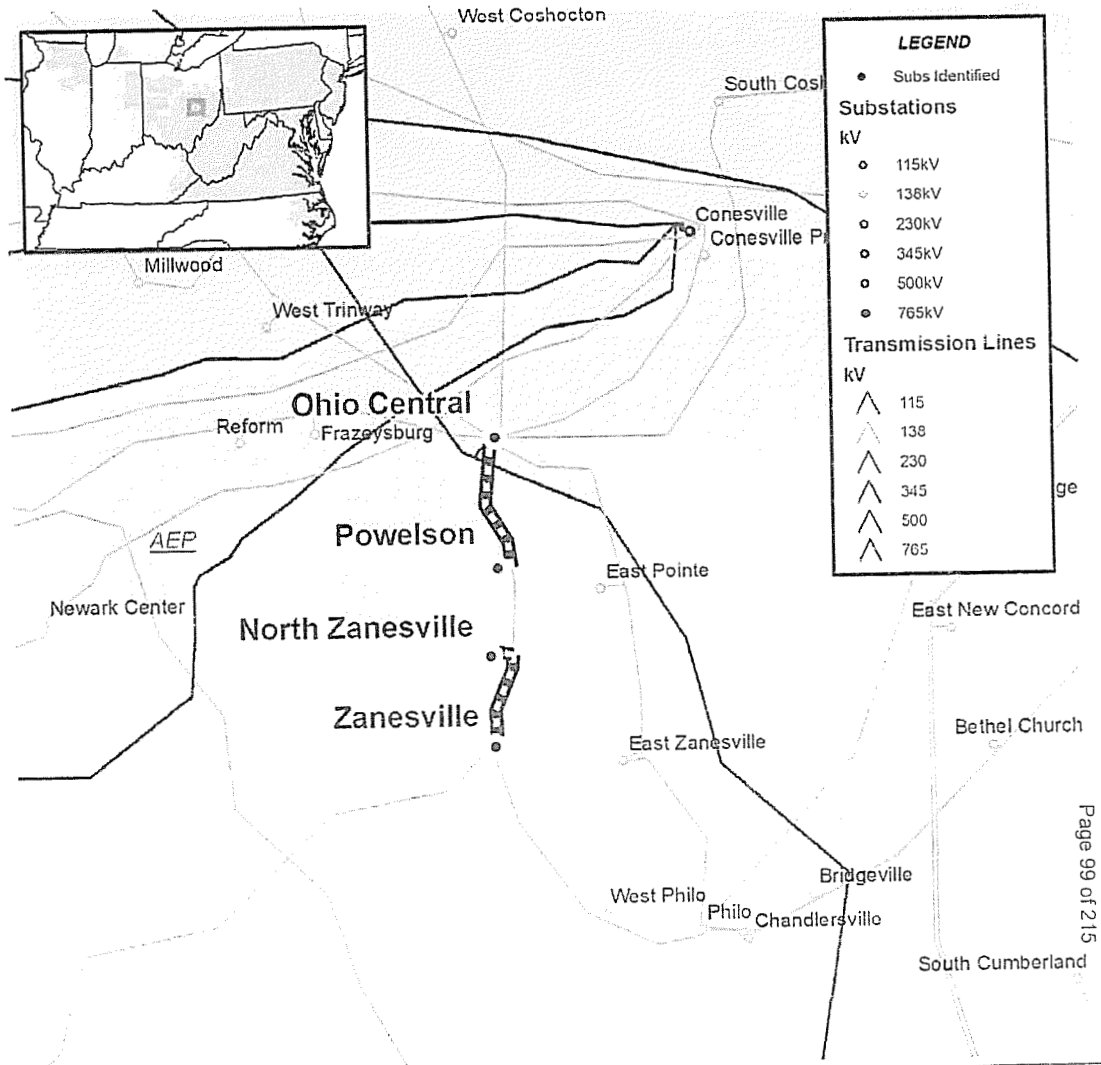
AEP Transmission Zone

- Baseline Thermal Violation
- The North Zanesville – Zanesville 138 kV line is overloaded for the bus fault at Ohio Central with the loss of the East Point – Ohio Central 138 kV line and Ohio Center – S. Cochocton 138kV line
- Recommended Solution: North Zanesville – Zanesville 138 kV sag check (B1452)
- Estimated Project Cost: $0.0188M
- Expected IS Date: 12/31/2012



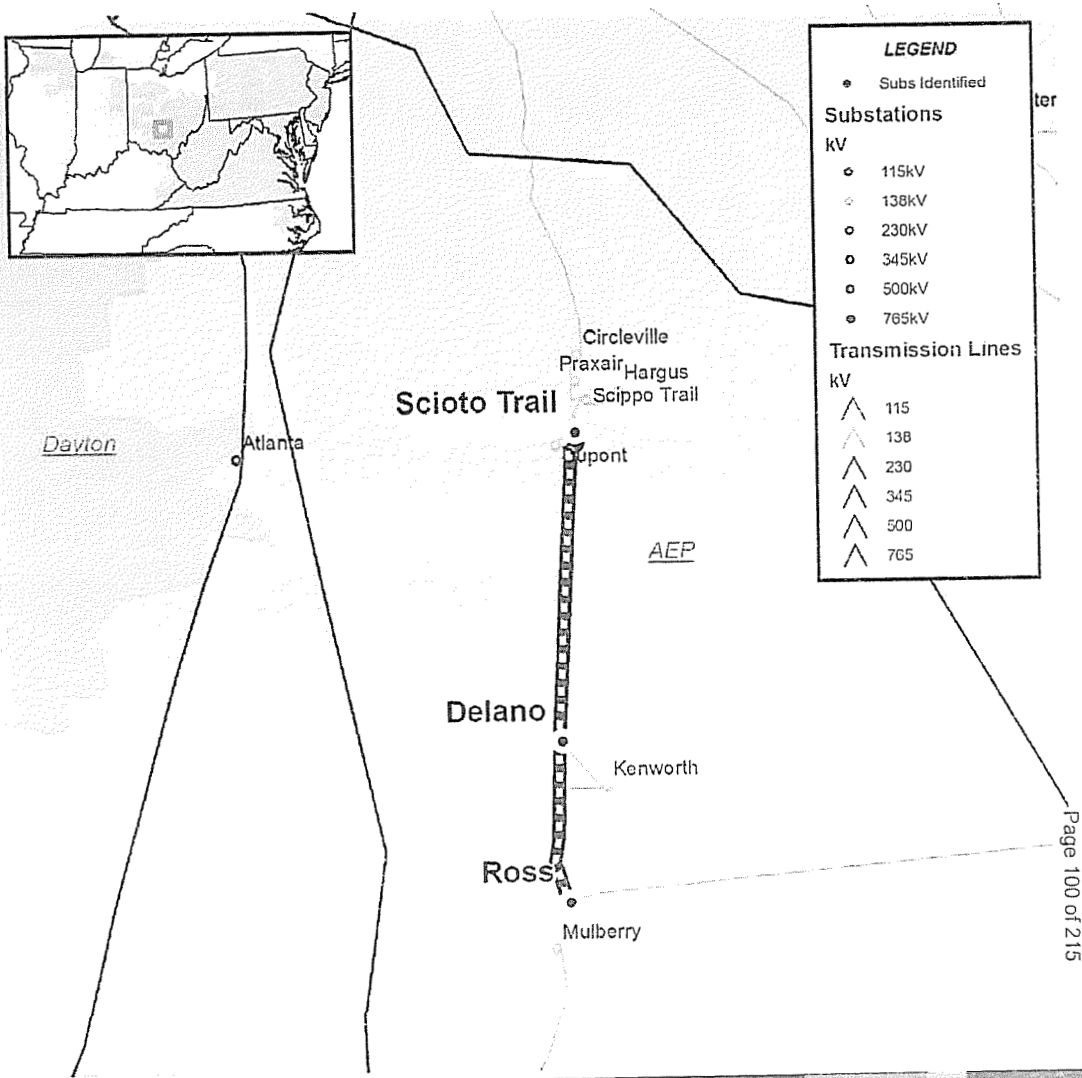
AEP Transmission Zone

- N-1-1 Thermal Violation
- The North Zanesville – Powelson and Ohio Central – Powelson 138 kV line is overloaded for the loss of South Canton 345/138 kV transformer and the loss of the Ohio Central - East Point - East Zanesville – Philo 138 kV line
- Recommended Solution: North Zanesville – Powelson and Ohio Central – Powelson 138 kV sag check (B1453)
- Estimated Project Cost: $0.1304 M
- Expected IS Date: 12/31/2012



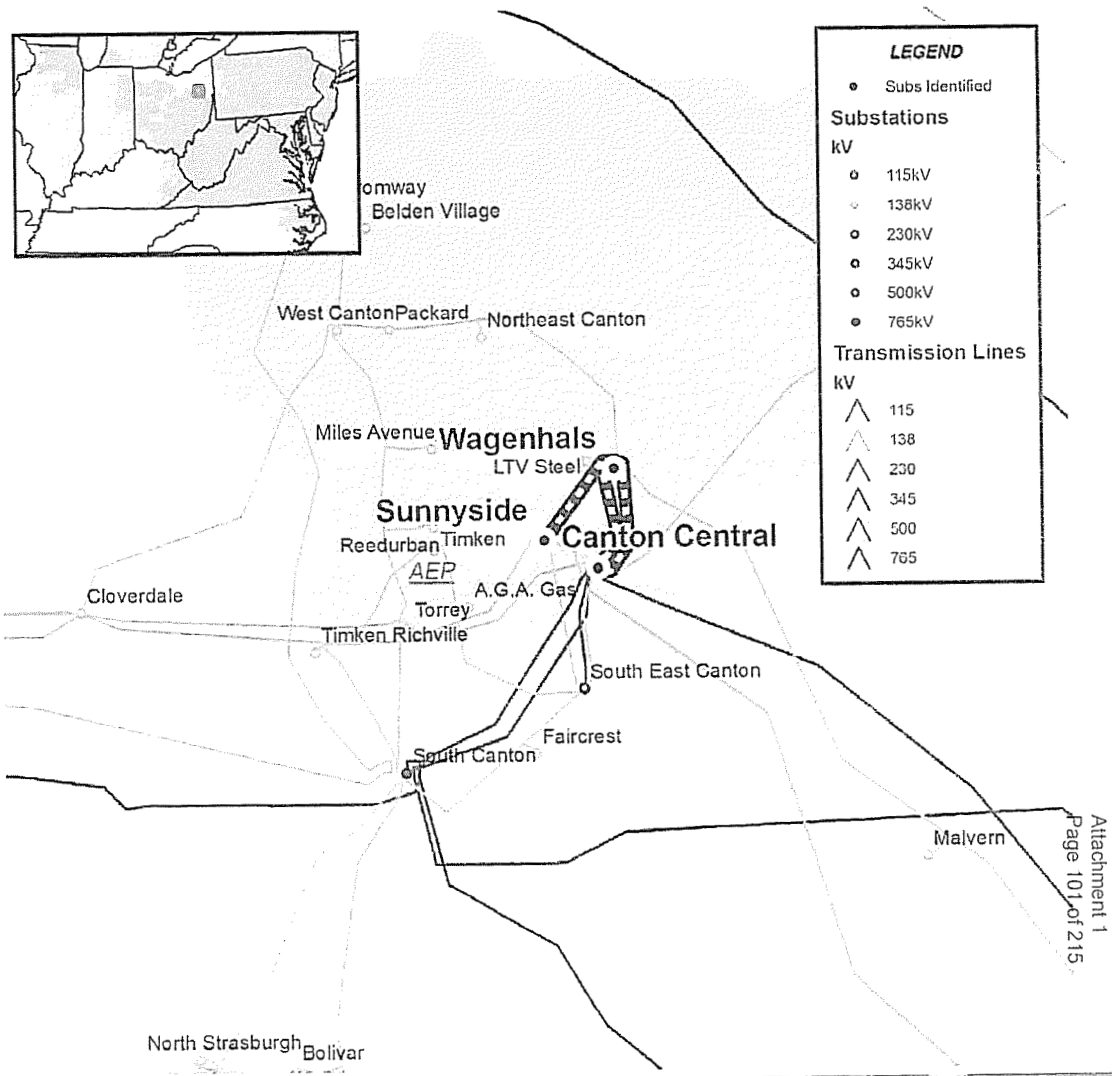
AEP Transmission Zone

- Basecase Thermal Violation and N-1-1 Thermal Violation
- The Ross – Delano – Scioto Trail 138 kV line is overloaded for the North Fork – Bixby 345 kV line fault with stuck breaker at North Fork and various combination of single contingencies
- Recommended Solution: These circuits have been de-rated to their normal ratings and could benefit from an electrical clearance study to determine if the emergency rating can be utilized (B1454)
- Estimated Project Cost: $0.064 M
- Expected IS Date: 12/31/2012



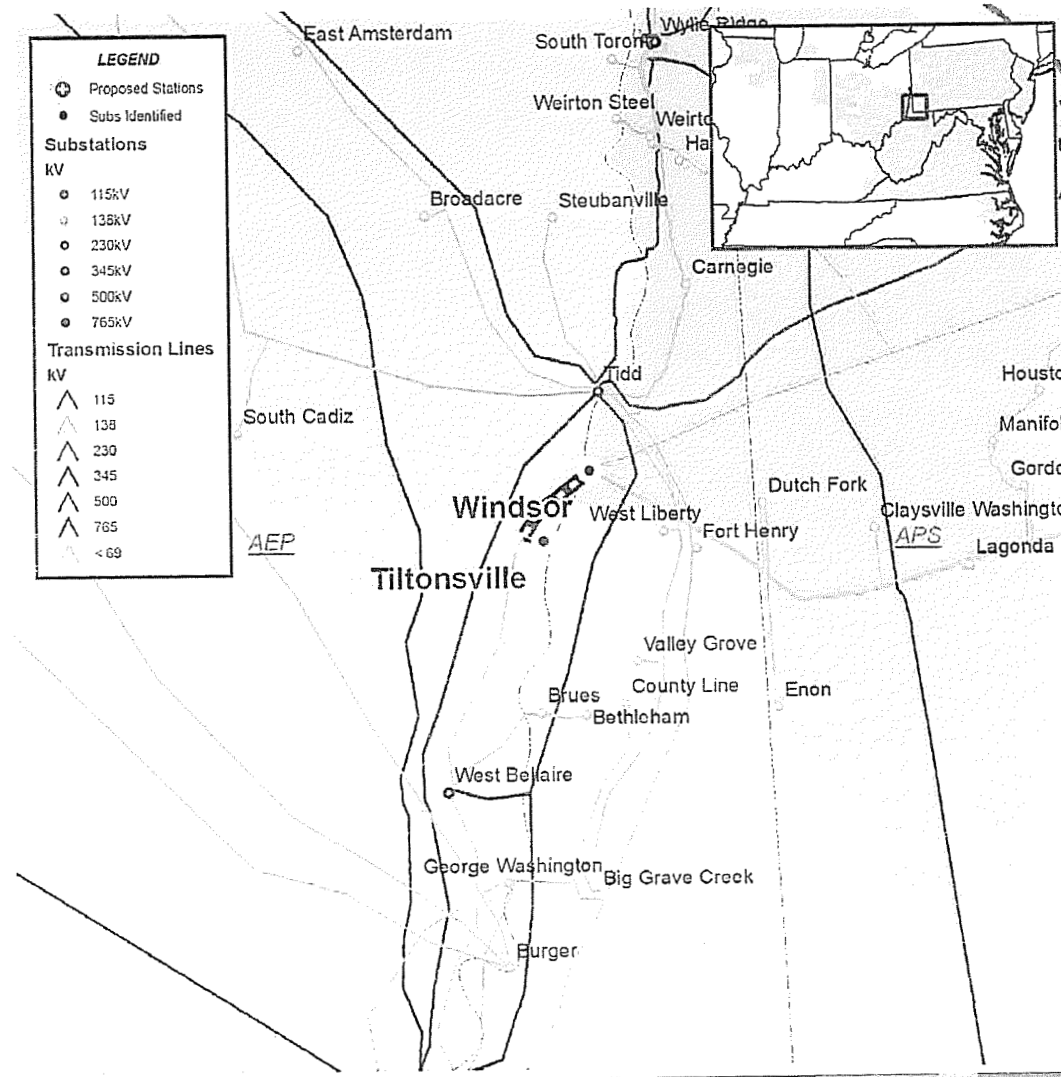
AEP Transmission Zone

- N-1-1 Thermal Violation
- The Sunny – Canton Central – Wagenhals 138 kV line is overloaded for the loss of the Sunnyside – Wagenhals 138 kV line and the loss of the Canton Central – Wagenhals 138 kV line or the loss of the Canton Central – Wagenhals 138 kV line and the loss of the Canton Central – Wagenhals 138 kV line
- Recommended Solution: A sag check will determine if all circuits can be operated at its summer emergency rating of 396 MVA (B1455)
- Estimated Project Cost: $0.032 M
- Expected IS Date: 12/31/2012



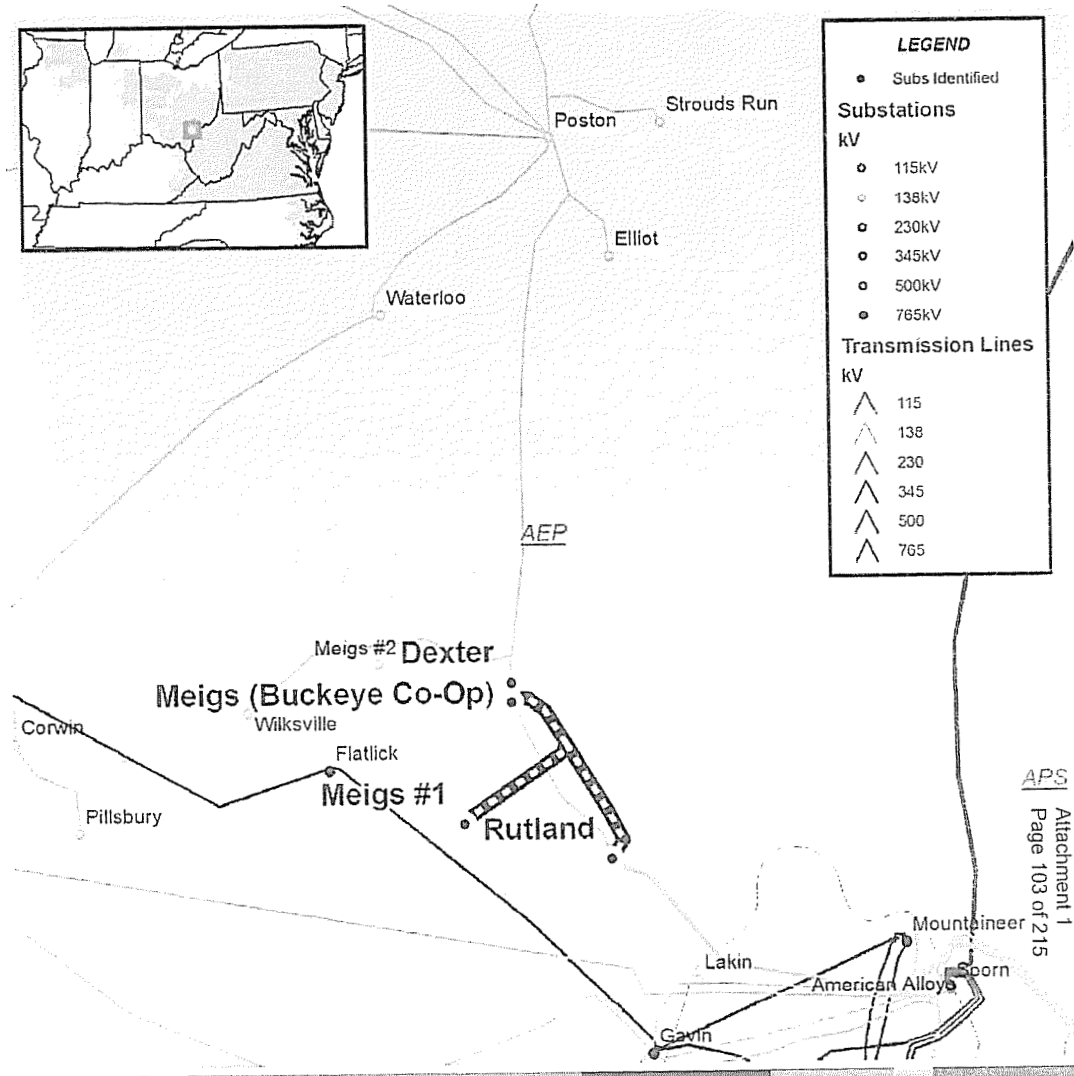
AEP Transmission Zone

- Common Mode Contingency Violation
- The Windsor – Tiltonsville 138 kV line is overloaded for the tower outage of the Wylie Ridge – Tidd 345 kV line and the Tidd – Collier 345kV line
- Recommended Solution: The Tiltonsville - Windsor 138 kV circuit has been de-rated to its normal rating and would need an electrical clearance study to determine if the emergency rating can be utilized (B1457)
- Estimated Project Cost: $0.02 M
- Expected IS Date: 12/31/2012



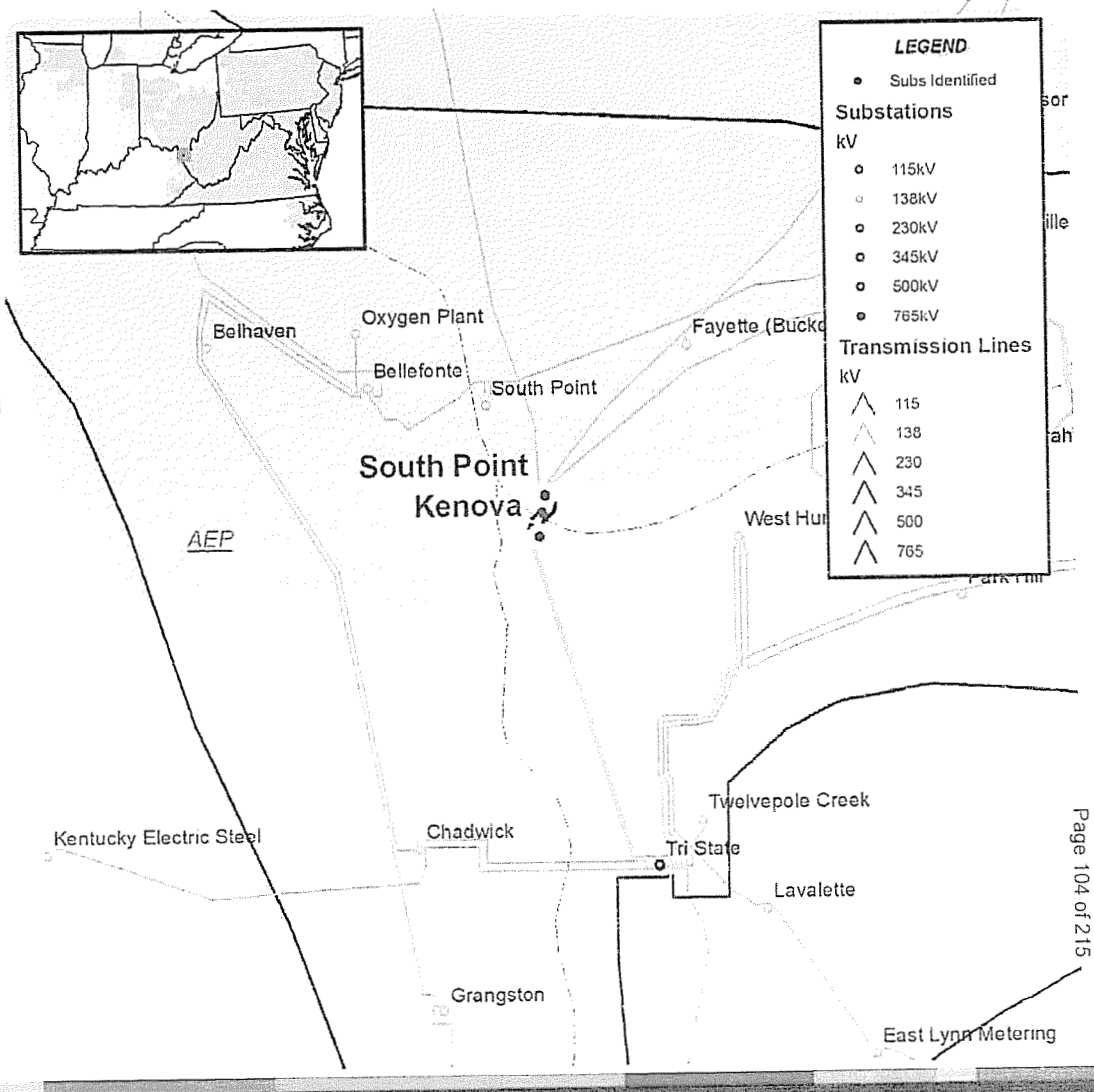
AEP Transmission Zone

- Generator Deliverability Violation
- The Dexter – Meigs 138 kV line is overloaded for the Muskingum – Waterford 345 kV line fault with the stuck breaker at Muskingum
- Recommended Solution: Dexter – Meigs 138 kV Electrical Clearance Study (B1448)
- Estimated Project Cost: $0.00824 M
- Expected IS Date: 12/31/2012



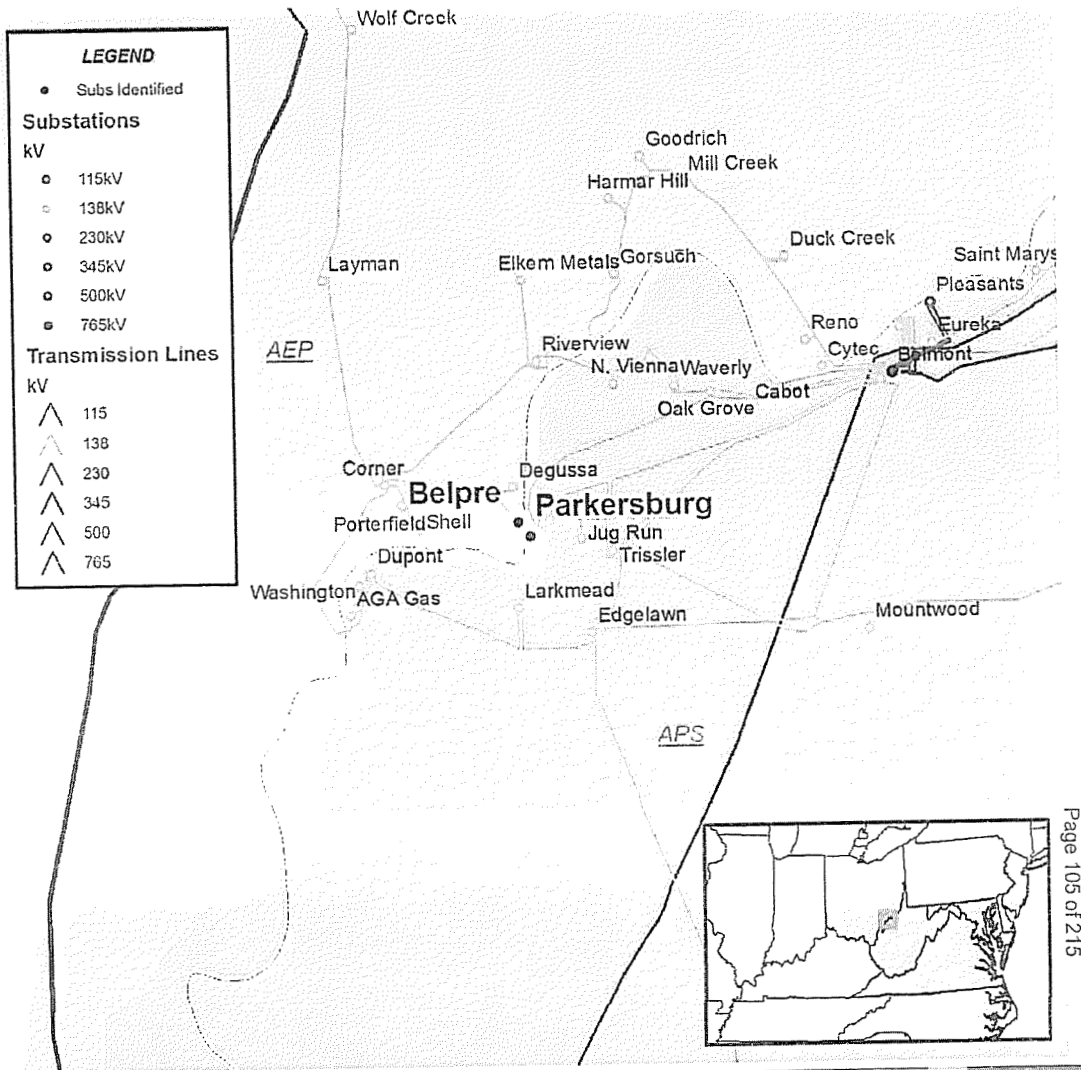
AEP Transmission Zone

- Baseline Thermal Violation
- The Kenova – South Point 138kV line is overloaded for the loss of Baker 765/345 kV transformer
- Recommended Solution: Several circuits have been de-rated to their normal conductor ratings and could benefit from electrical clearance studies (a.k.a. sag studies) to determine if the emergency rating can be utilized (B1459)
- Estimated Project Cost: $0.00536 M
- Expected IS Date: 12/31/2012



AEP Transmission Zone

- N-1-1 Thermal Violation
- The Belpre – Parkersburg 138 kV line is overloaded for the loss of the Oak Grove Substation – Waverly 138 kV line and the loss of Willow Island – Cytec 138 kV line
- Recommended Solution: Perform a sag study on the Parkersburg (Allegheny Power) – Belpre (AEP) 138 kV sag study (B1446)
- Estimated Project Cost: $0.007 M
- Expected IS Date: 12/31/2012



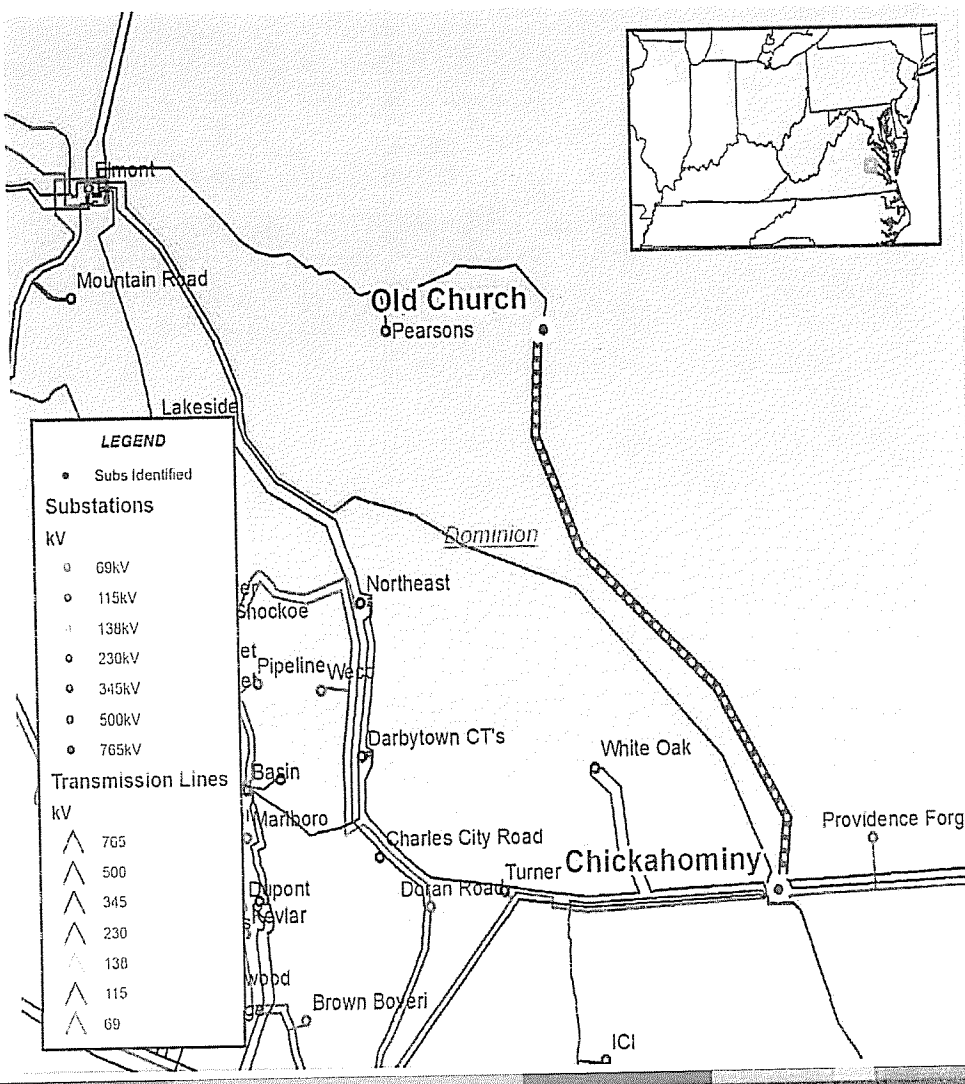
Dominion Transmission Zone

Dominion Criteria Violation

- Problem: Line loading at Pearsons and Old Church Subs. exceeds 100 MVA.
- Solution: Extend the line from Old Church to Chickahominy 230 kV (b0767)

- Previous Estimated Project Cost: $17.0 M
- New Estimated Project Cost: $39.0 M

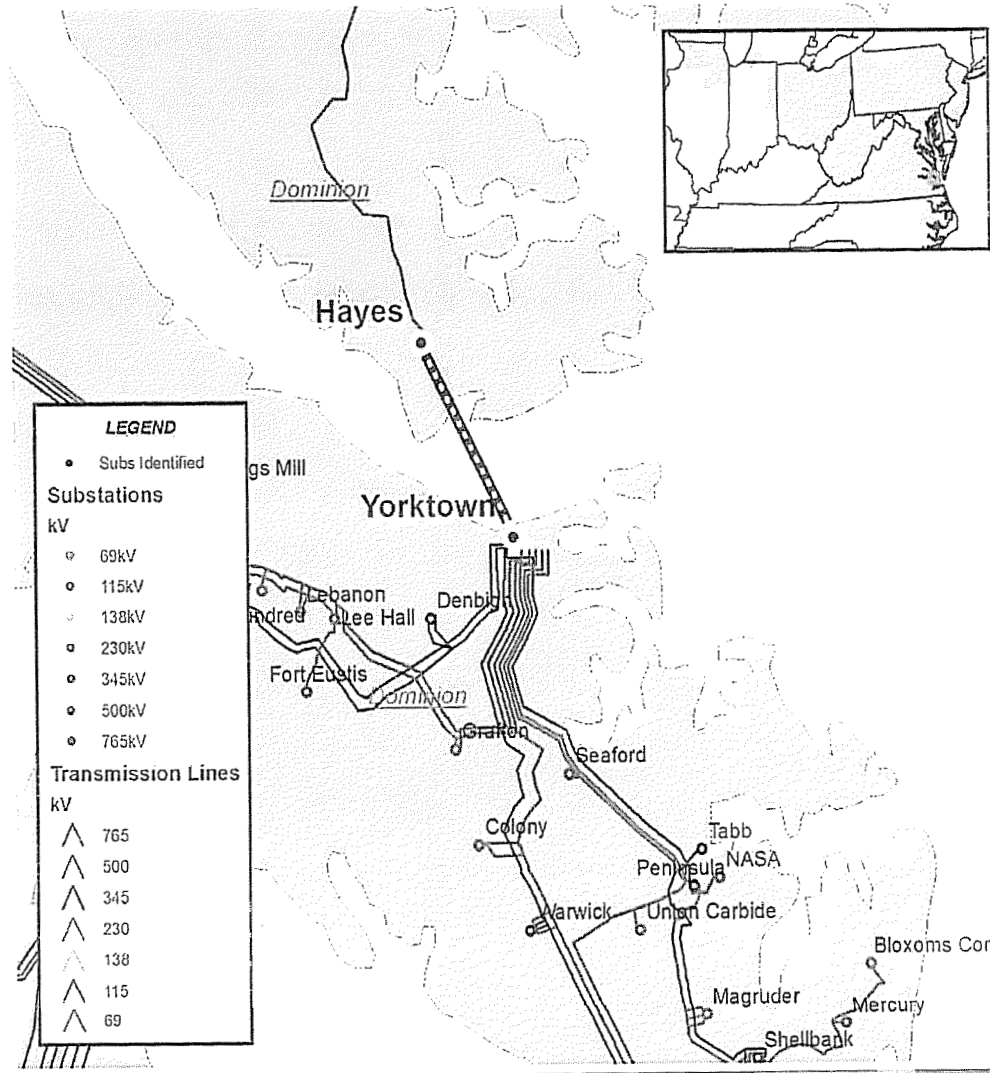
- Previous Projected IS Date: November 2009
- New Projected IS Date: March 18, 2011



NERC Category B Violation

- Previously approved RTEP upgrade
- Problem: Loss of Lanexa to Harmony results in low voltage on underlying 115 kV
- Proposed Solution: Build a new 230 kV line from Yorktown to Hayes (b0779)
- Previous Estimated Project Cost: $25.0 M
- New Estimated Project Cost: $74.0 M
- Projected IS Date: May 2012

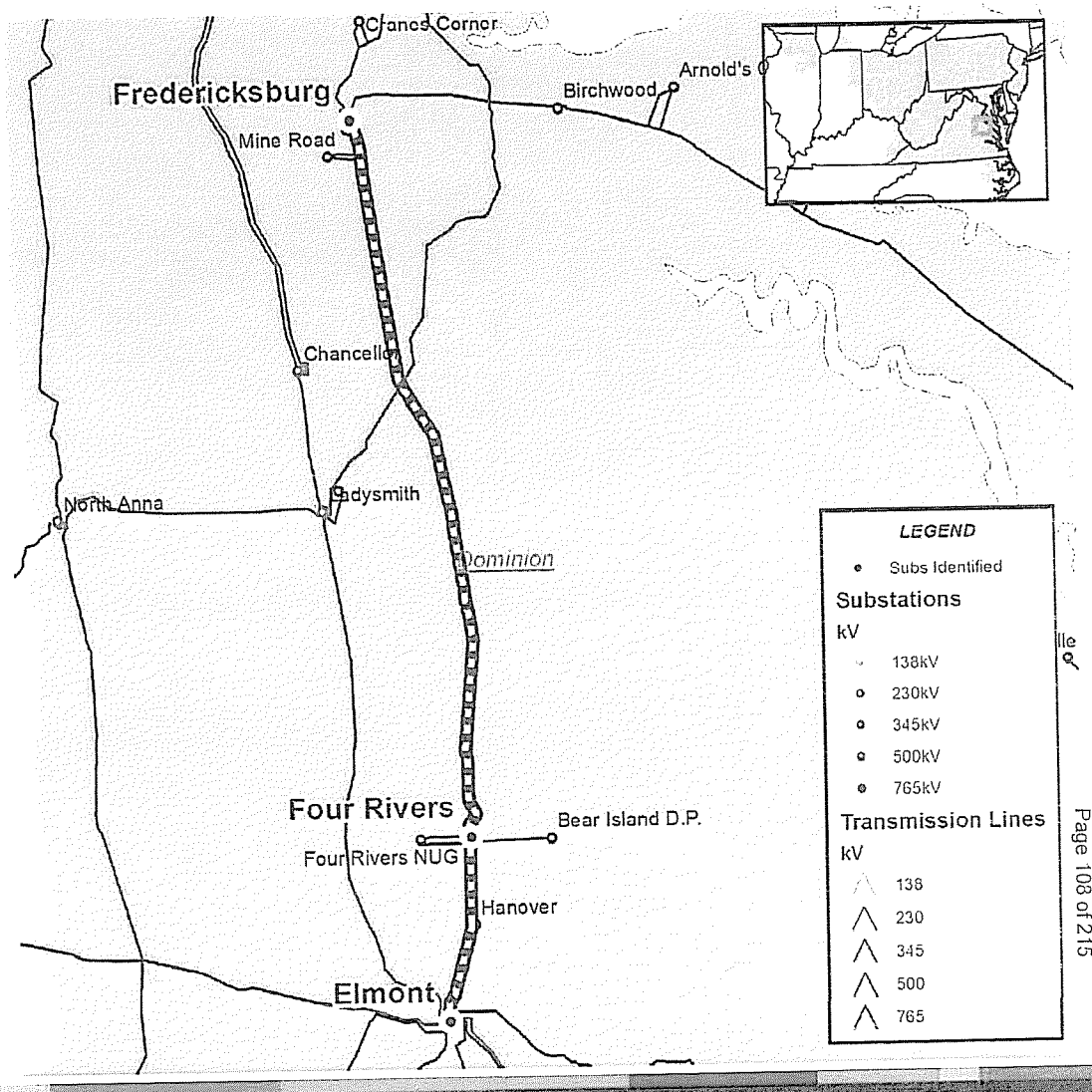
Dominion Transmission Zone



Dominion Transmission Zone

NERC Category C Violation

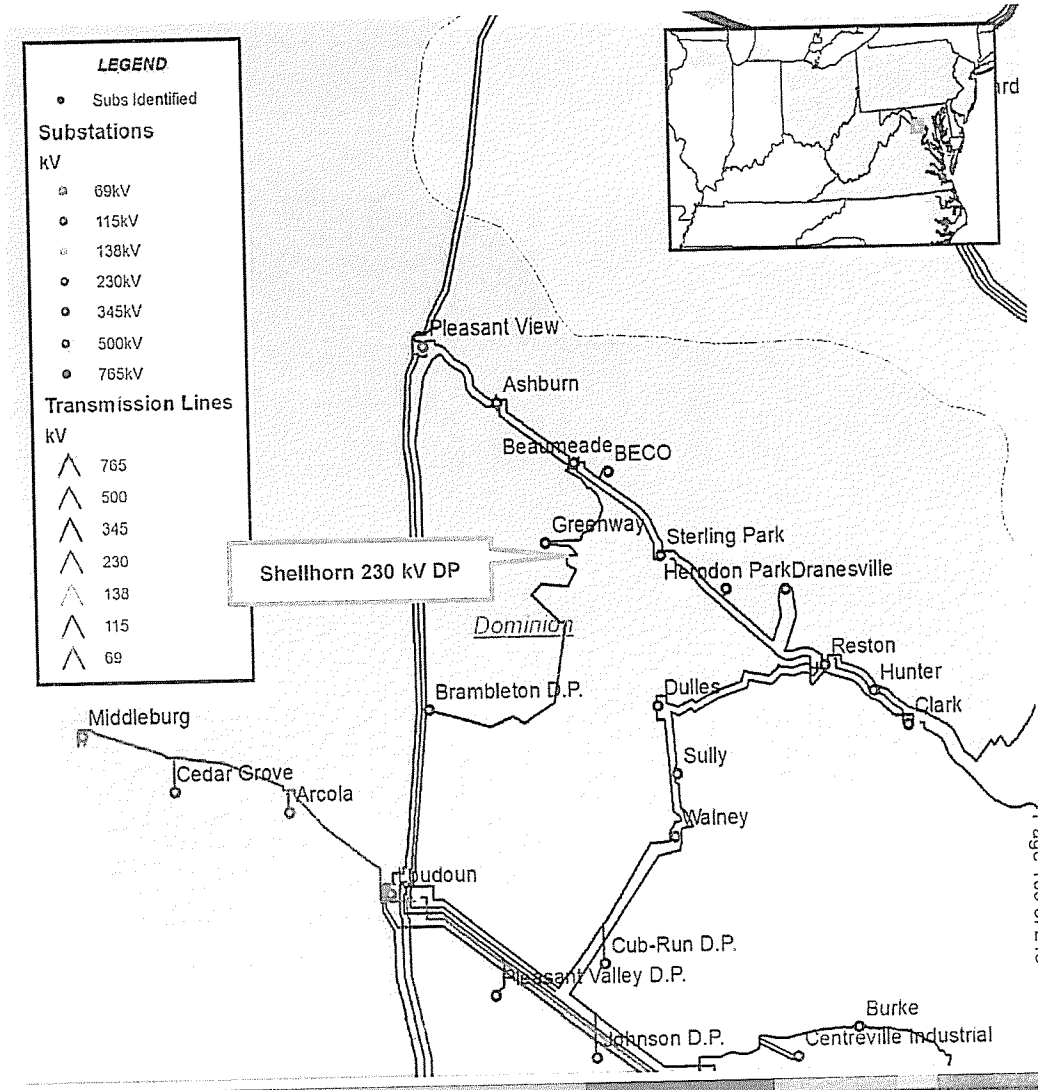
- Previously approved RTEP upgrade
- The outage of line #73 Four Rivers to Elmont with Four Rivers 115 kV generation off causes low voltages at line #45 Four Rivers to Fredericksburg 115 kV
- Also Line #47 Four Rivers to Fredericksburg overloads for the outage line #29 Fredericksburg to Possum Pt and Fredericksburg 230/115 kV
- Recommended Solution: Install 2nd Fredericksburg 230/115 kV Autotransformer (b0758)
- Estimated Project Cost: $5.5 M
- Previous Projected IS Date: 5/1/2013
- New Projected IS Date: 5/1/2012



Dominion Transmission Zone

Dominion Criteria Violation

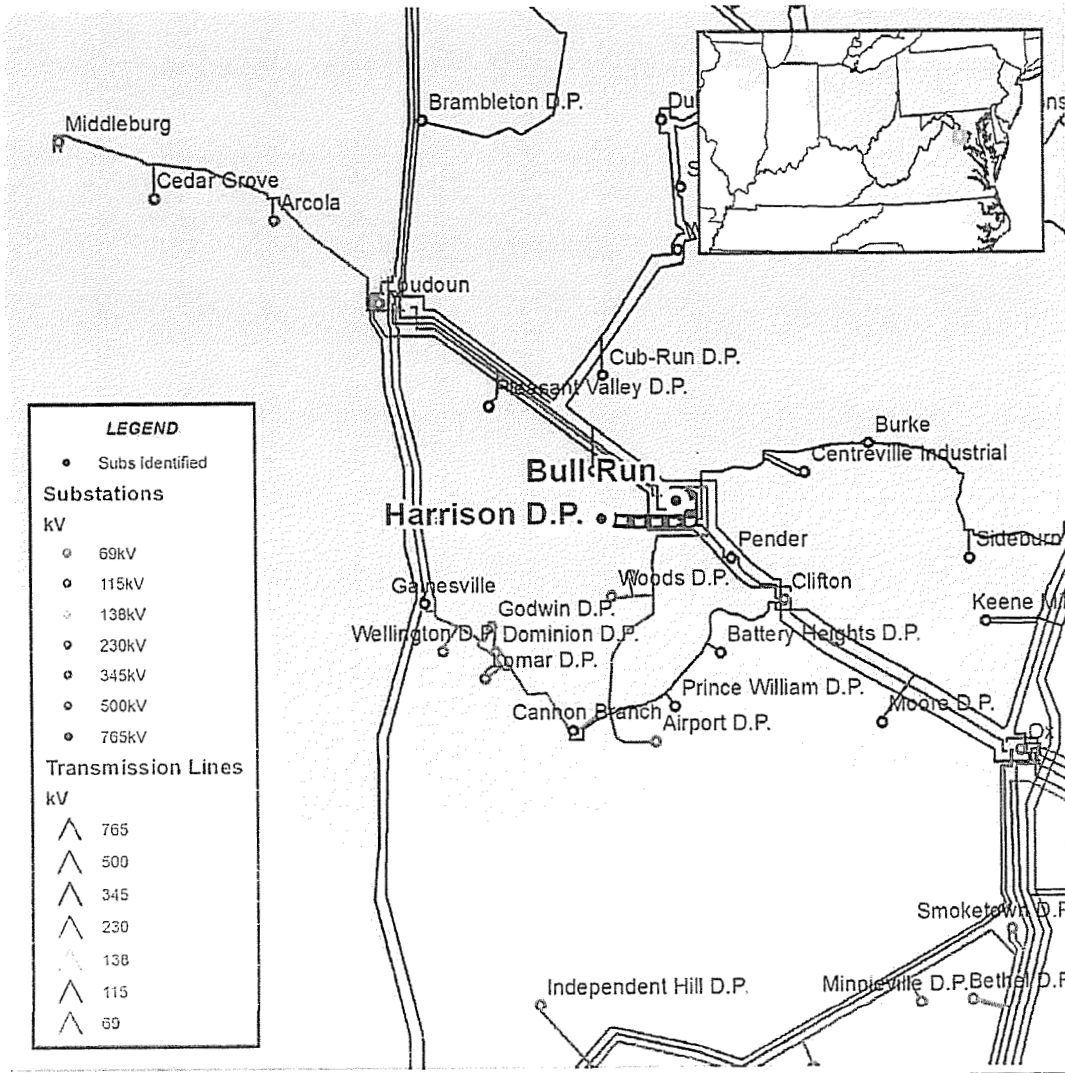
- Dominion Distribution has requested a new 230 kV delivery by 2013 to serve the expansion of an existing datacenter customer. Initial requested capacity is 70 MW in 2013, growing to 100 MW by 2015
- No existing 230 kV lines are located in the area. If a 230 kV line is extended from NIVO to Waxpool then loading on that radial line will exceed 100 MW and networking will be required. If a 230 kV source is extended from Shellhorn then radial line loading will exceed 100 MW and contingencies will drop more than 300 MW violating DVP and PJM criteria
- Proposed solution
  - Network NIVO and Waxpool Substations with Shellhorn Substation
  - Construct a 230 kV underground line approximately 1.6 miles from existing NIVO Substation to Waxpool Substation
  - Install a four-breaker, 230 kV ring-bus at Waxpool Substation
  - Network Waxpool Substation by constructing a 230 kV overhead line approximately 2.1 miles from Waxpool Substation to Shellhorn Substation and install two additional 230 kV breakers at Shellhorn
- Estimated Project Cost: $30 M
- Projected IS Date: May 2013



Dominion Transmission Zone

NERC Category B Violation

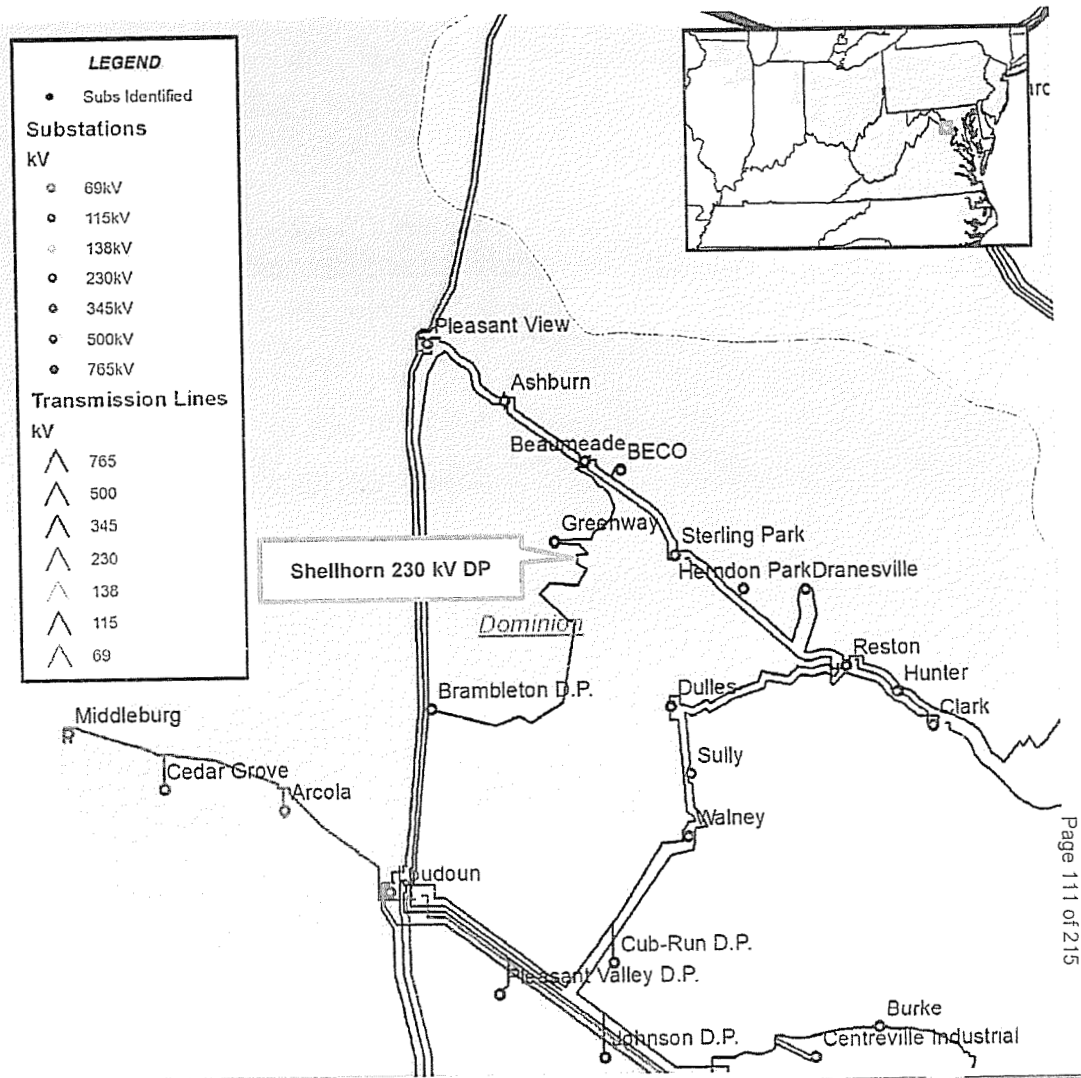
- Problem: The N-1 contingency loss of NOVEC's 115 kV transmission circuit #923 will result in an overload of Dominion's Line #134 (Bull Run-Harrison DP) while trying to restore load. Additionally, normal loading on Line #134 (radial) is above 100 MW
- Proposed Solution:
  - Re-build Lines #134 and #163 for higher capacity, approximately 0.5 miles from Bull Run Substation to Harrison DP
  - Install a tie-switch between the lines at Harrison DP
- Estimated Project Cost $3.0 M
- Projected IS Date: May 2013



Dominion Transmission Zone

Dominion Criteria Violation

- Dominion Distribution has requested a new 230 kV delivery by 2013 to serve forecasted system conditions associated with the MetroRail extension into Loudoun County and also increased loading due to continued datacenter development. Initial load is 30 MW in 2013 growing to 60 MW by 2015.
- The initial installation will include looping Line 2095 approximately 200 feet in-and-out of the station and installing two 230 kV breakers to avoid having 300 MVA exposed to a single contingency event, Line stuck breaker failure L2095 (227T2095). The loss of 300 MVA would exceed Dominion and PJM criteria
- Estimated Project Cost $3.0 M
- Projected IS Date: May 2013

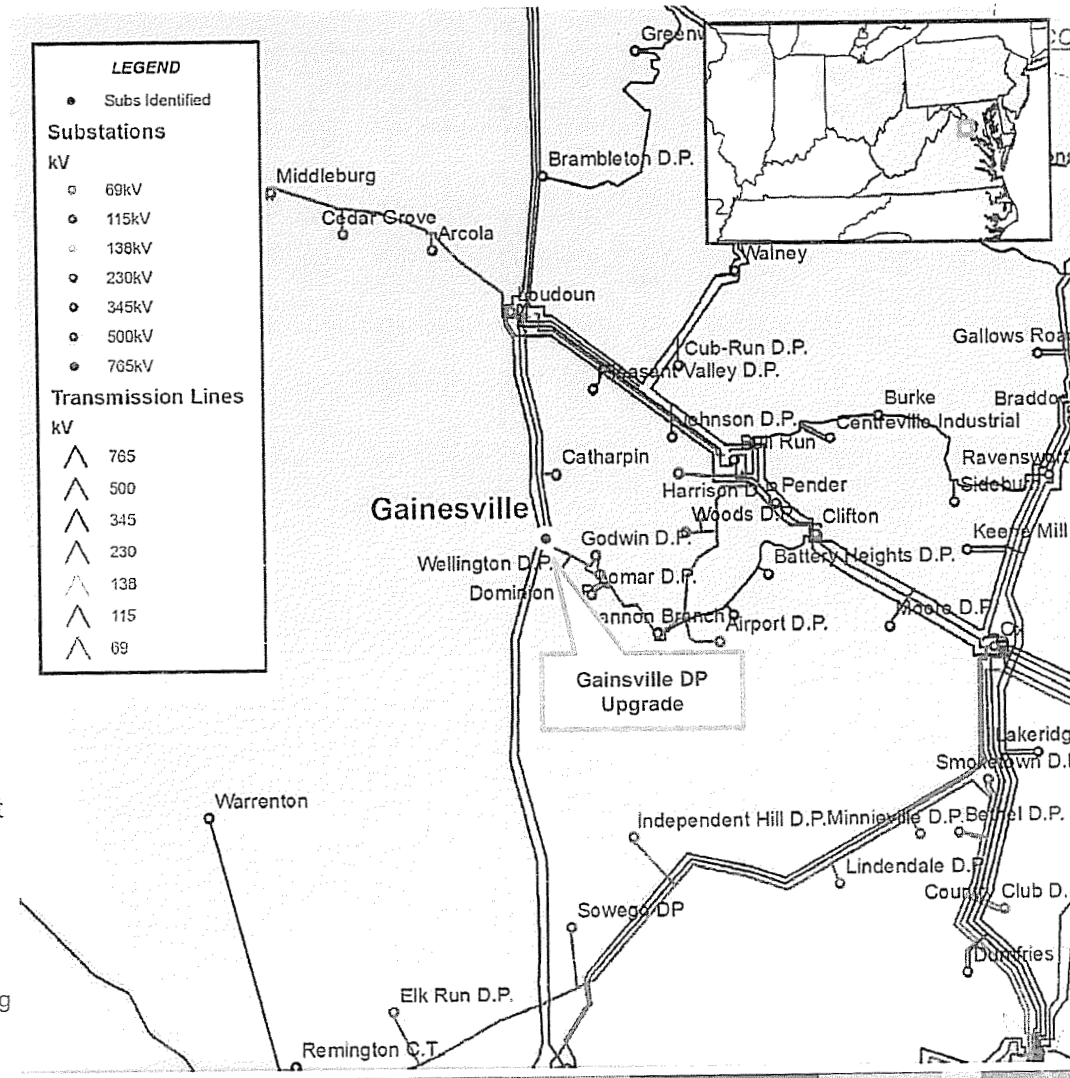


Dominion Transmission Zone

NERC Category A Violation

- Problem: Block load additions at NOVEC's Gainesville DP is increasing load by 120-140 MW over the next several years. By summer 2012, the transformer feeding their DP will be above its emergency rating (269.1 MVA) under normal conditions.
- Proposed Solution:
  - At Gainesville Substation, create two 115 kV straight-buses with a normally open tie-breaker
  - Upgrade Line 124 (radial from Loudoun) to a minimum continuous rating of 500 MVA and network it into the 115 kV bus feeding NOVEC's DP at Gainesville
  - Install two additional 230 kV breakers in the ring at Gainesville (may require substation expansion) to accommodate conversion of NOVEC's Gainesville to Wheeler line
  - Convert NOVEC's Gainesville-Wheeler line from 115 kV to 230 kV (will require replacement of three transformers total at Atlantic and Wheeler Substations)
- Estimated Project Cost $20.0 M*
- Projected IS Date: May 2013

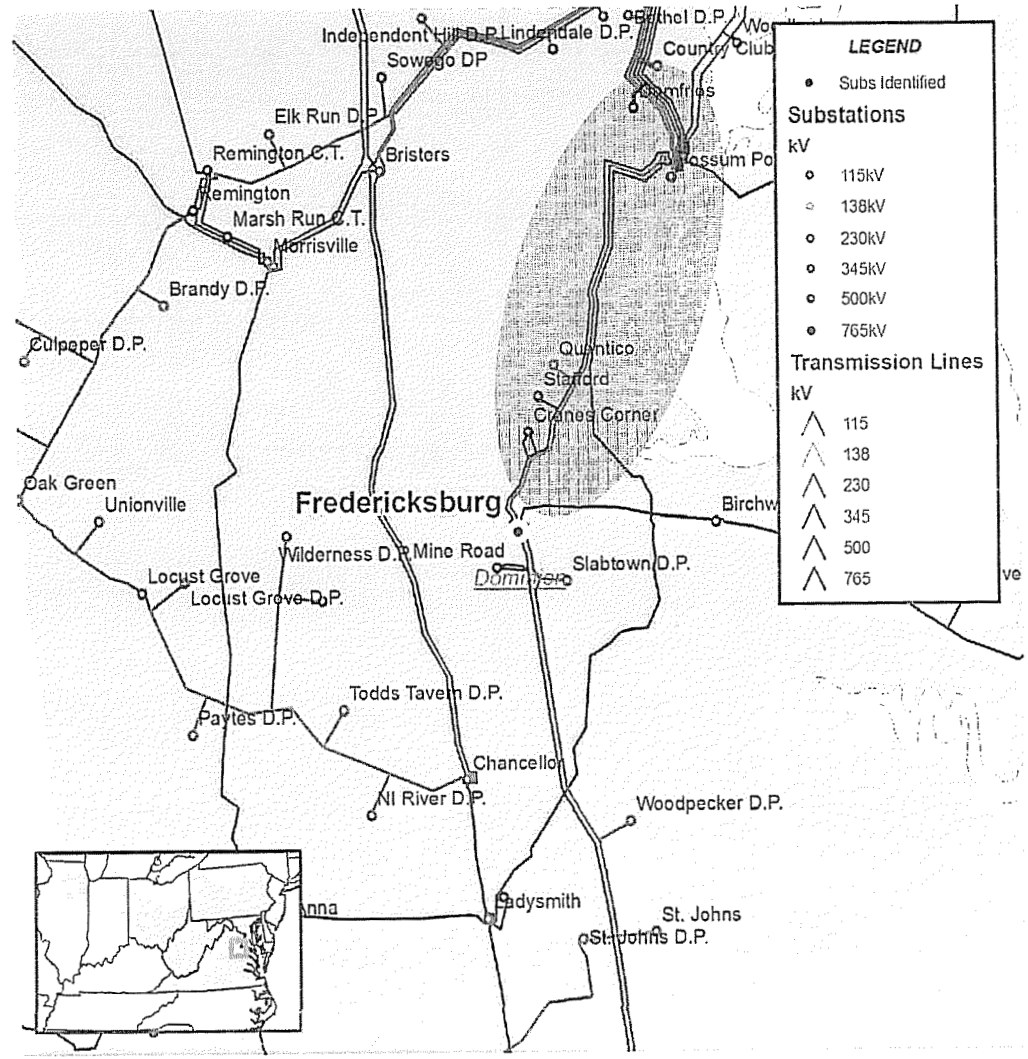
* Note: After conversion to 230kV there will be several radial 230kV lines approaching 100 MW; DVP is evaluating options that will be presented at a later TEAC



Dominion Transmission Zone

NERC Category C Violation

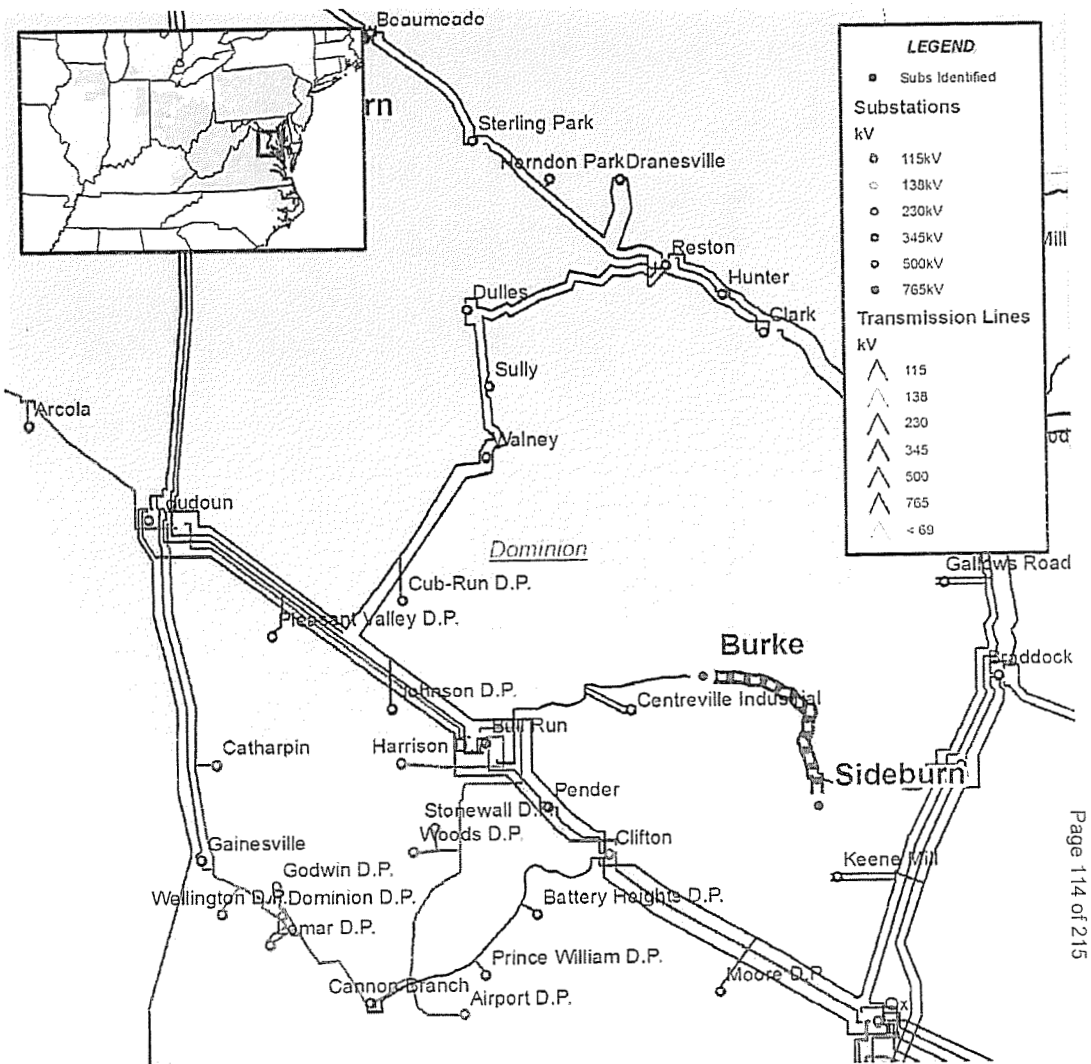
- Previously approved RTEP upgrade
- Problem: The failure of the Fredericksburg 230kV breaker #2090T2104 results in load loss greater than 300MW – Dominion & PJM Criteria violation
- Proposed Solution: Install a 230kV, 3000 amp breaker at Cranes Corner Substation to sectionalize the 2104 line into two lines. Project(b1311)
- Previous Estimated Project Cost: $0.75 M
- New Estimated Project Cost: $1.1M
- Projected IS Date: 05/01/2014



Dominion Transmission Zone

NERC Category C Violation

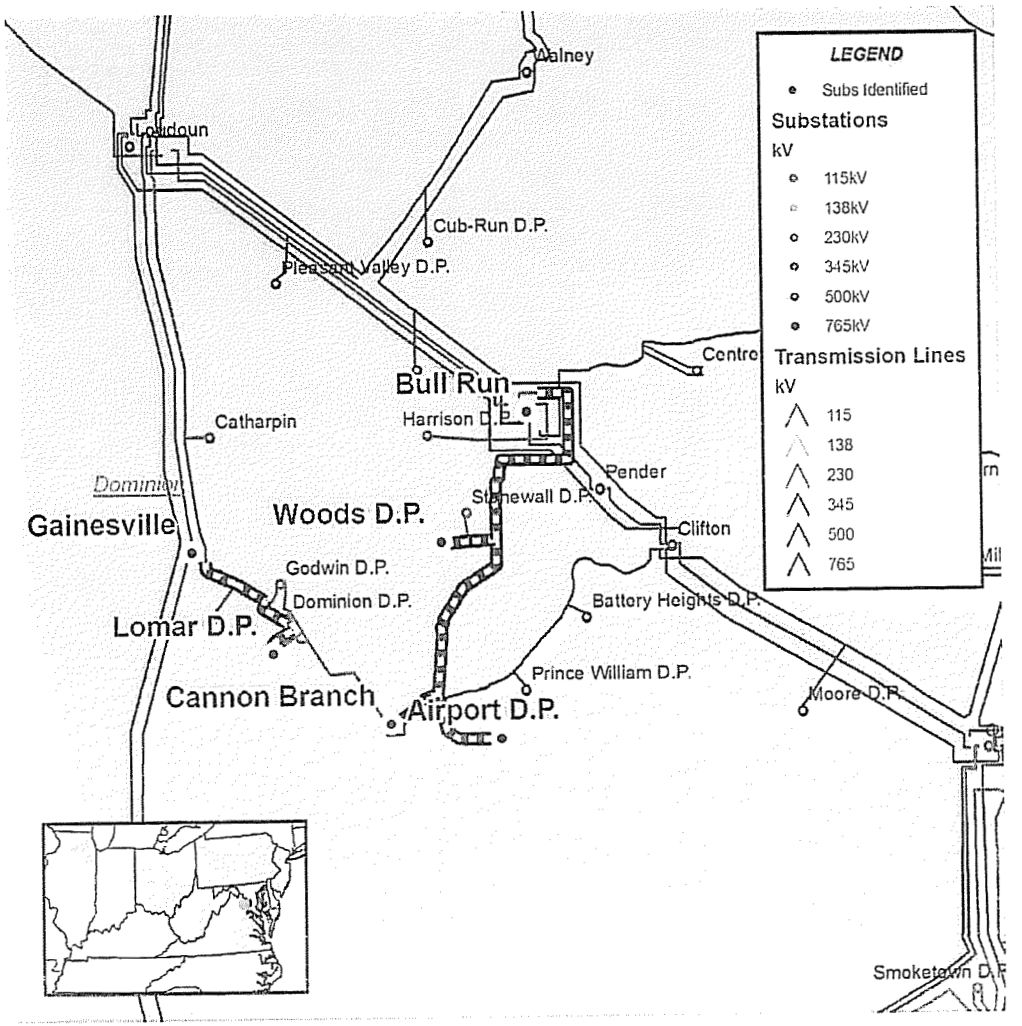
- Previously approved RTEP upgrade
- Problem: The Burke to Sideburn underground circuit overloads for the N-1-1 loss of Bull Run - Loudoun 230 kV and Clifton - Pender 230 kV
- Proposed Solution: Install 2nd Burke to Sideburn 230 kV underground cable (b1089)
- Previous Estimated cost: $4.0 M
- New Estimated cost: $9.0 M
- Projected IS date: 6/1/2014



Dominion Transmission Zone

NERC Category B & C Violation

- Previously approved RTEP upgrade
- Problem: For the N-1 loss of radial 230kV Line #2011 (Clifton-Cannon Branch), Line #172 (Gainesville-Lomar DP) and Line #163 (Bull Run-Airport DP) will load to 102% and 105%, respectively, while trying to restore the load. Additionally, the Gainesville 230/115 kV transformer will load to 96%.
- For a 2nd N-1 event (loss of the Gainesville 230/115 kV TX), Line #163 would exceed its emergency rating between Bull Run and Woods DP (approx 4 miles) and between Woods DP and Cannon Branch (approx 2.7 miles).
- Proposed Solution: Build Cannon Branch to Nokesville 230 kV Line (b1332)
- Estimated Project Cost: $40 M
- Previous Projected IS Date: 5/31/2018
- New Projected IS Date: 5/31/2015



Dominion Transmission Zone

Region with thermal issues

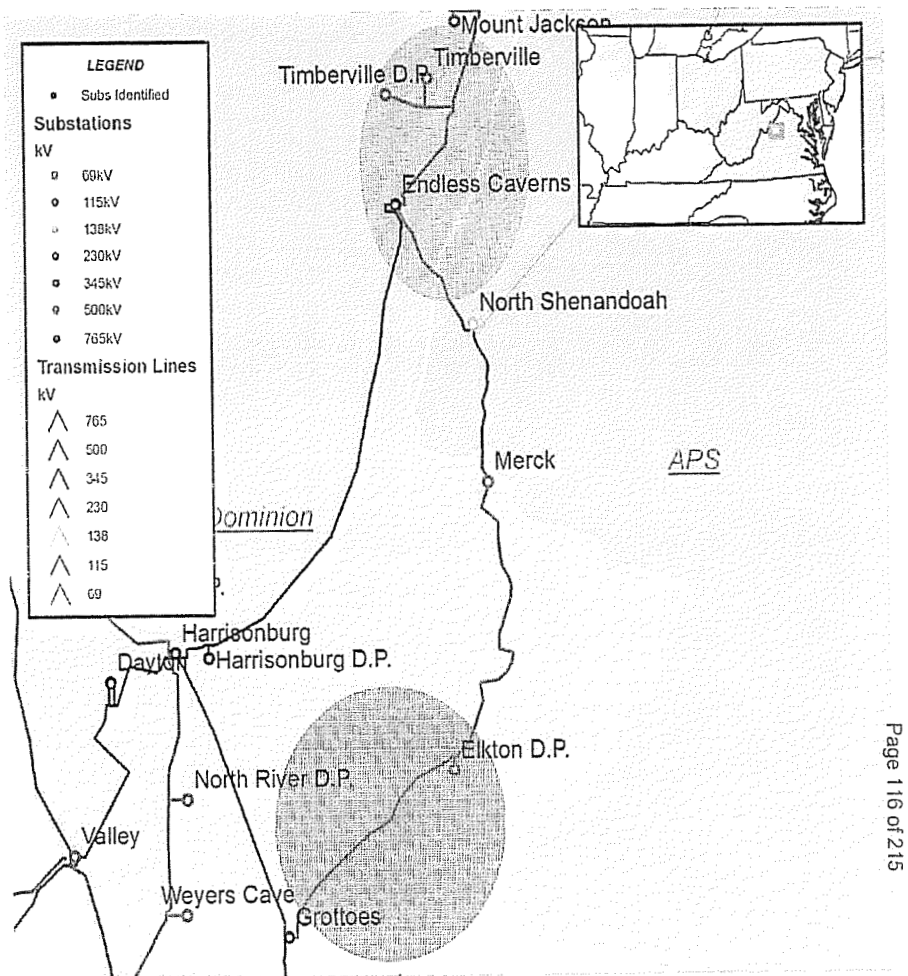
Region with voltage issues

A. NERC Category B. The N-1 loss of the 230kV line section HEC2 DP to Harrisonburg results in a thermal overload of the 115kV Line # 119 (Grottoes to Merck), and the 230-115kV TX at Grottoes

B. NERC Category B. The N-1 loss of one of 230-115kV transformers at Endless Caverns results in thermal overload of the remaining 230-115kV transformer at Endless Caverns.

C. NERC Category C3. The N-1-1 loss of the 230kV line section HEC2 DP to Harrisonburg and the 138kV Line Section (Strasburg to Meadow Brook) results in extreme low voltage in the area.

D. NERC Category C3. The N-1-1 loss of the 230kV line section HEC2 DP to Harrisonburg and the loss of the Grottoes 230-115kV TX results in extreme low voltage in the area.



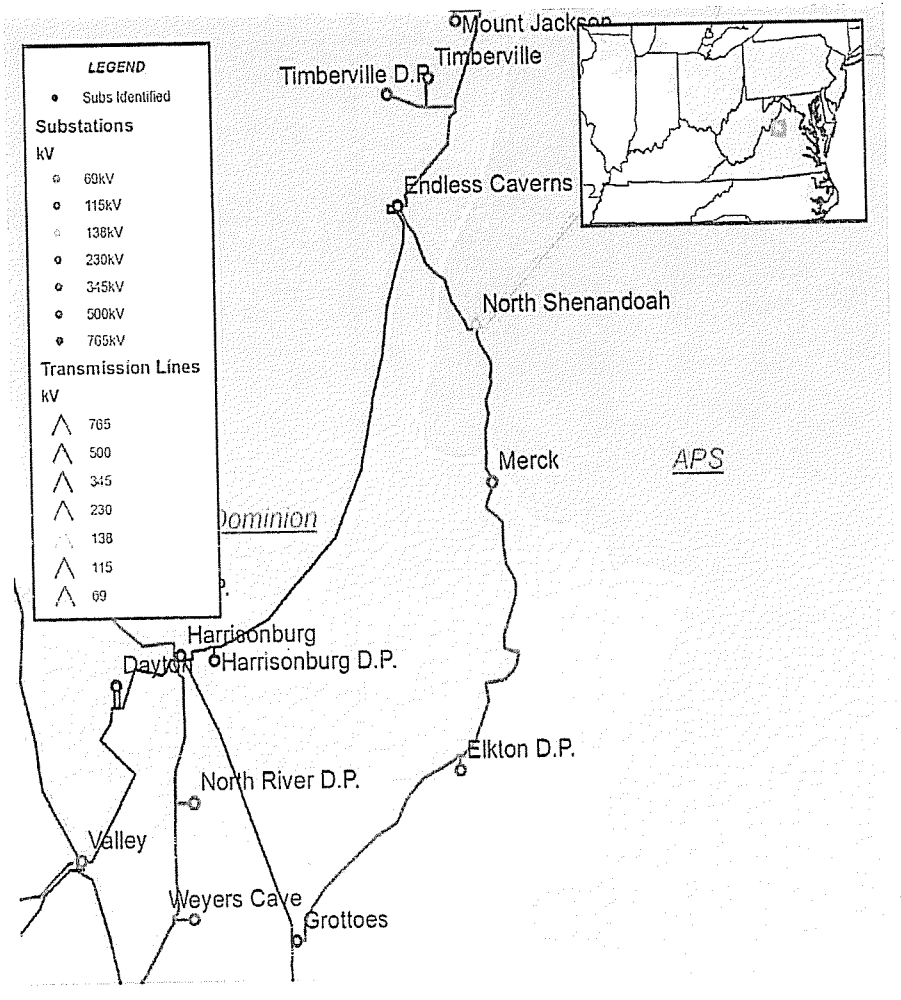
Dominion Transmission Zone

Solutions Considered:	*Estimated Cost	ROW	Does solution solve Deficiencies?			
			A	B	C	D
Build a new 25 mile 230kV line Warrenton to Sperryville (APS) and install a 224MVA 230-138kV transformer at Sperryville.	$67 M	25 mi of new ROW	No	No	No	No
Build a new 13 mile 230kV line Harrisonburg to Merck and install a 224MVA 230-115kV transformer at Merck. Improve LSE's power factor in area.	$37 M	13 mi of new ROW	Yes	Yes	No	No
Install a 2nd 230-115kV TX at Grottoes. Build a 2nd 115kV transmission line from Grottoes to Merck. Improve LSE's power factor in area, and install a shunt capacitor bank.	$30.5 M	13 mi of additional ROW	Yes	No	No	No
Build a 2nd 230kV Line Harrisonburg to Endless Caverns. Install a 3rd 230-115kV Tx at Endless Caverns. Upgrade 115kV shunt capacitor banks at Merck and Edinburg.	$70.0 M	20 mi. May be able to utilize existing ROW	Yes	Yes	Yes	Yes

***Note:** Estimated costs do not include cost of right-of-way (ROW) or land purchases.

Dominion Transmission Zone

- Continued from previous slide
- Proposed Solution:
  - Build a 2nd 230kV Line Harrisonburg to Endless Caverns
  - Install a 3rd 230-115kV Tx at Endless Caverns
  - Upgrade 115kV shunt capacitor banks at Merck and Edinburg.
- Estimated Project Cost: $70 M
- Projected IS date: 6/1/2015



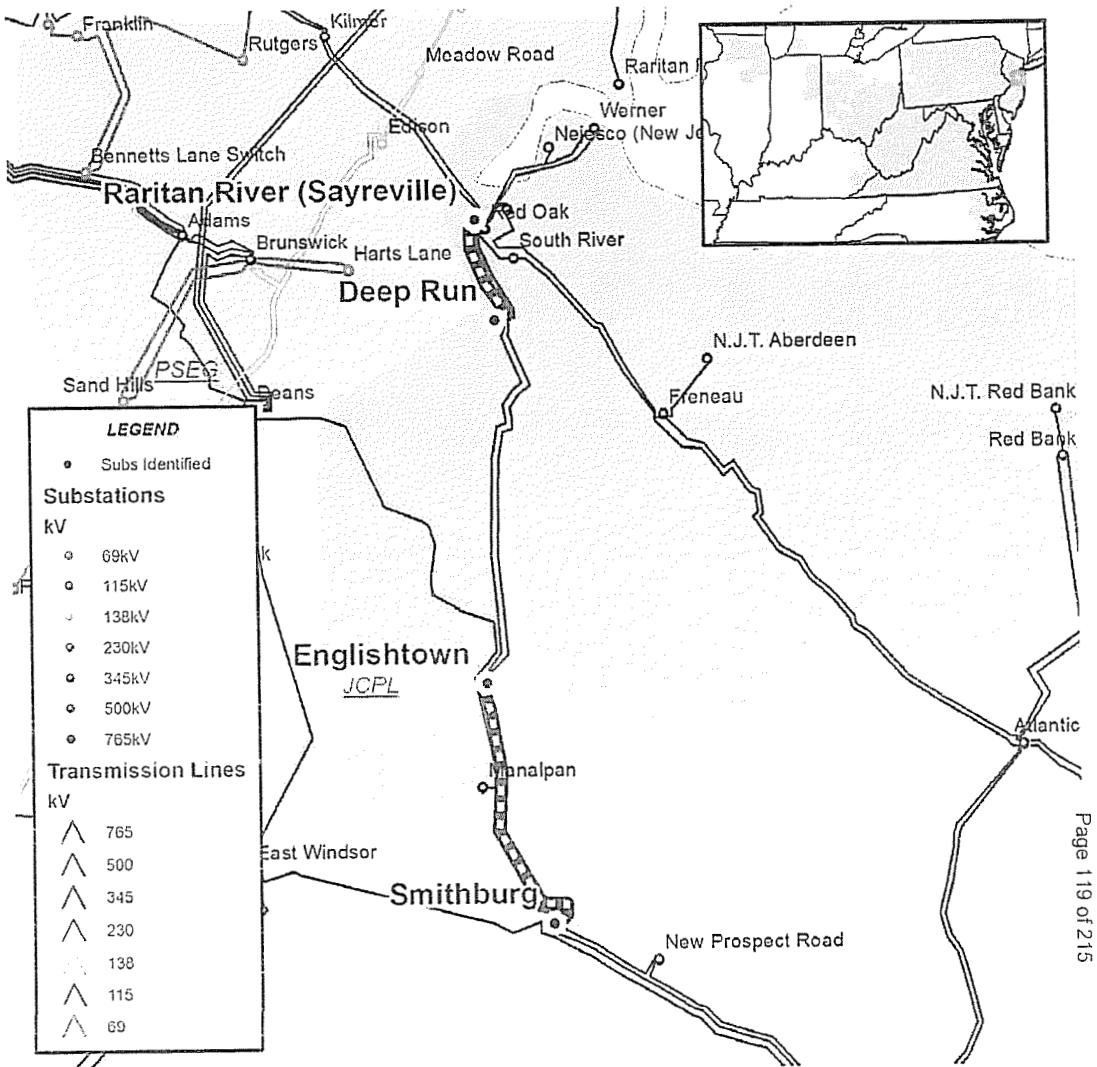
JCPL Transmission Zone

- FE planning criteria violation:
- Potential loss of load exceeding 300 MW for the loss of the Smithburg – Englishtown 230 kV and Raritan River – Deep Run 115 kV B2 and C3 circuits
- Proposed Solution:

  Replace wave traps at Raritan River and Deep Run 115 kV substations with higher rated equipment for both B2 and C3 circuits (B1374)
- Estimated Project Cost:

  $0.1772 M
- Expected IS Date:

  6/1/2013



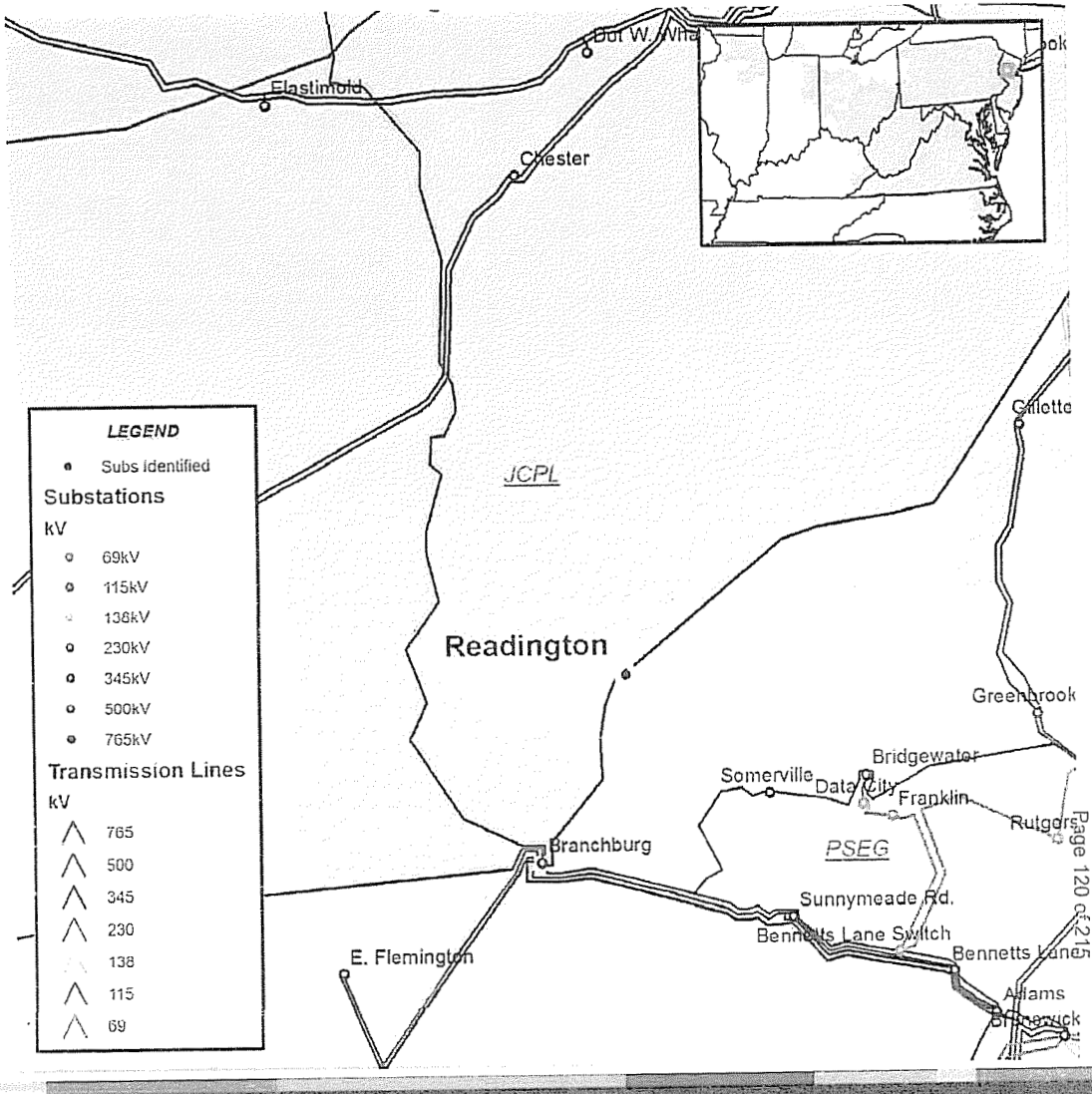
JCPLTransmission Zone

- FE planning criteria violation:
  - Overload on the Gillette – Stirling Tap (I737) 34.5 kV line section and voltage drop at Chambers Brook for the loss of Readington end of the 34.5 kV (I737) line
  - Overload of the Readington – Somerset (I737) 34.5 kV line section and voltage drop at Stirling for the loss of Gillette end of the 34.5 kV (i737) line
- Proposed Solution:

  Install a Martinsville 4-breaker 34.5 ring bus (B1345).
- Estimated Project Cost:

  $2.818 M
- Expected IS Date:

  6/1/2012



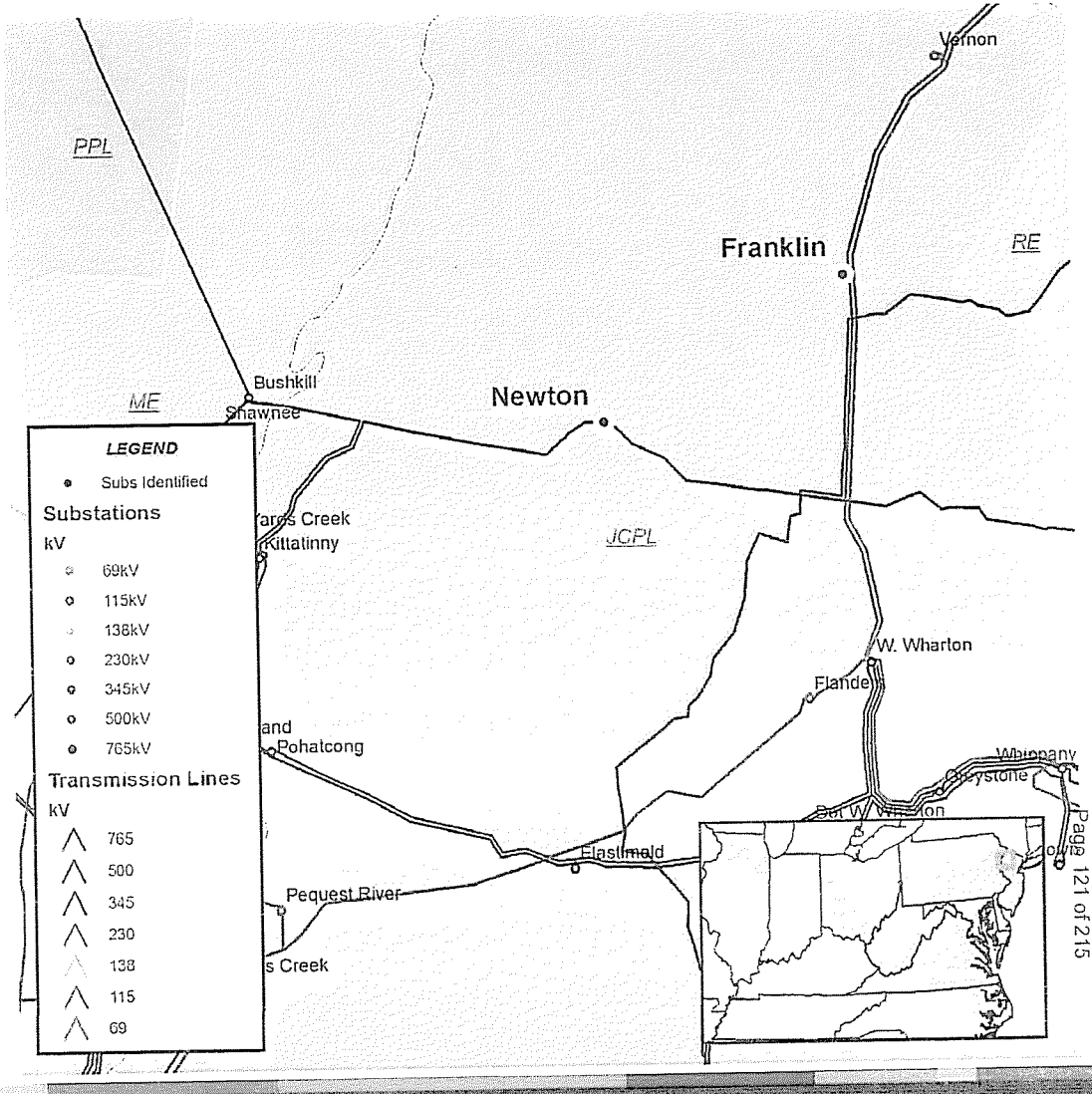
JCPL Transmission Zone

- FE planning criteria violation:
  - Overload on Hamburg – REA (Q745) 34.5 kV and low voltage in the area for the loss of Newton – North Newton 34.5 kV (F708) line
  - Overload on Newton – Branchville (F708) 34.5 kV line and low voltage in the area for the loss of Franklin to Hamburg 34.5 kV(Q745) line
- Proposed Solution:

  Reconductor 4.7 miles of the Franklin – Hamburg (R746) 34.5 kV line with 556 ACSR and build 2.7 miles 556 ACSR line extension to Sussex REA (B1346)
- Estimated Project Cost:

  $3.979 M
- Expected IS Date:

  6/1/2012



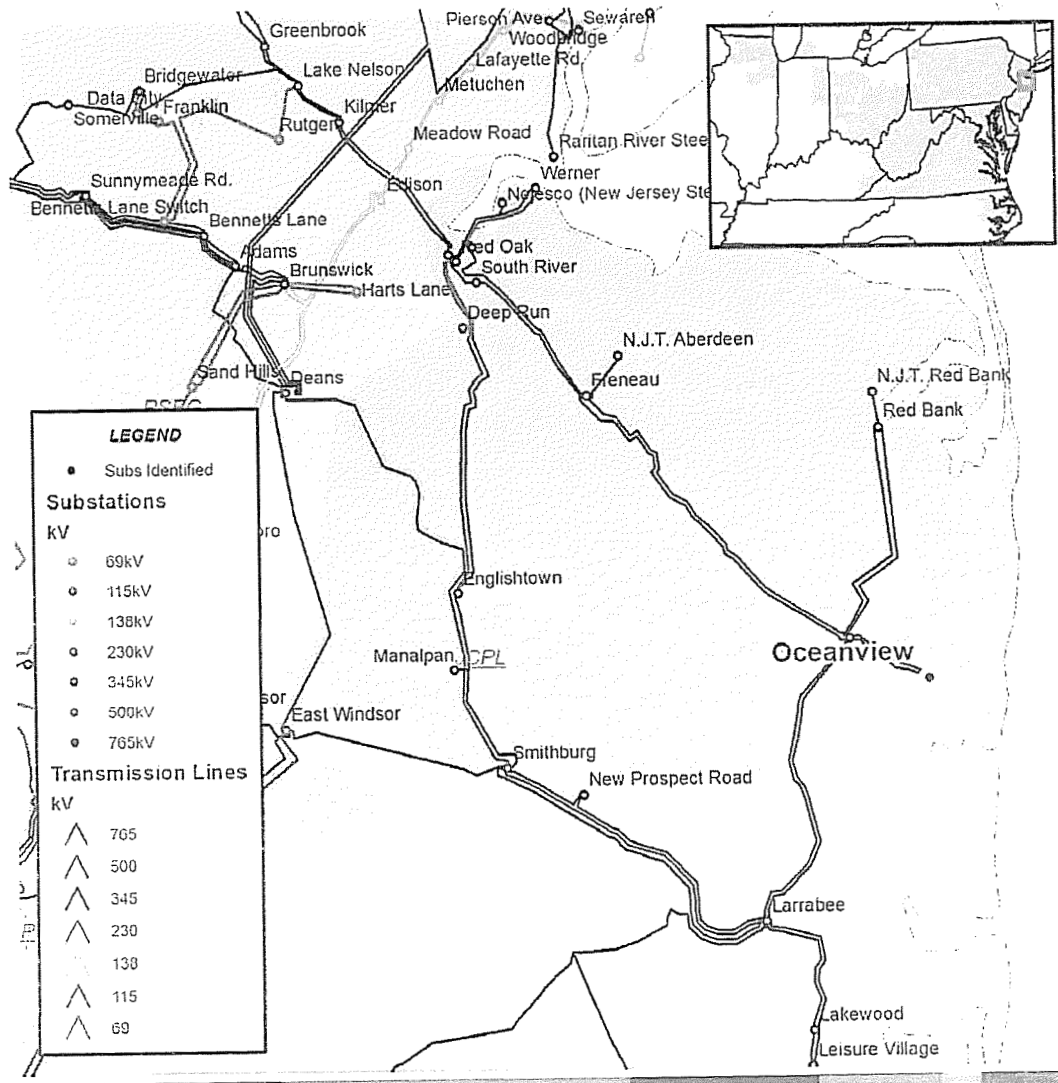
JCPL Transmission Zone

- FE planning criteria violation:
- Overload on the Whitesville – Asbury Tap 34.5 kV (U47) line for the loss of the Oceanview – Neptune Tap 34.5 kV (D130) line
- Proposed Solution:

  Replace 500 CU substation conductor with 795 ACSR on the Whitesville - Asbury Tap 34.5 kV (U47) line (B1347)
- Estimated Project Cost:

  $0.015 M
- Expected IS Date:

  6/1/2011



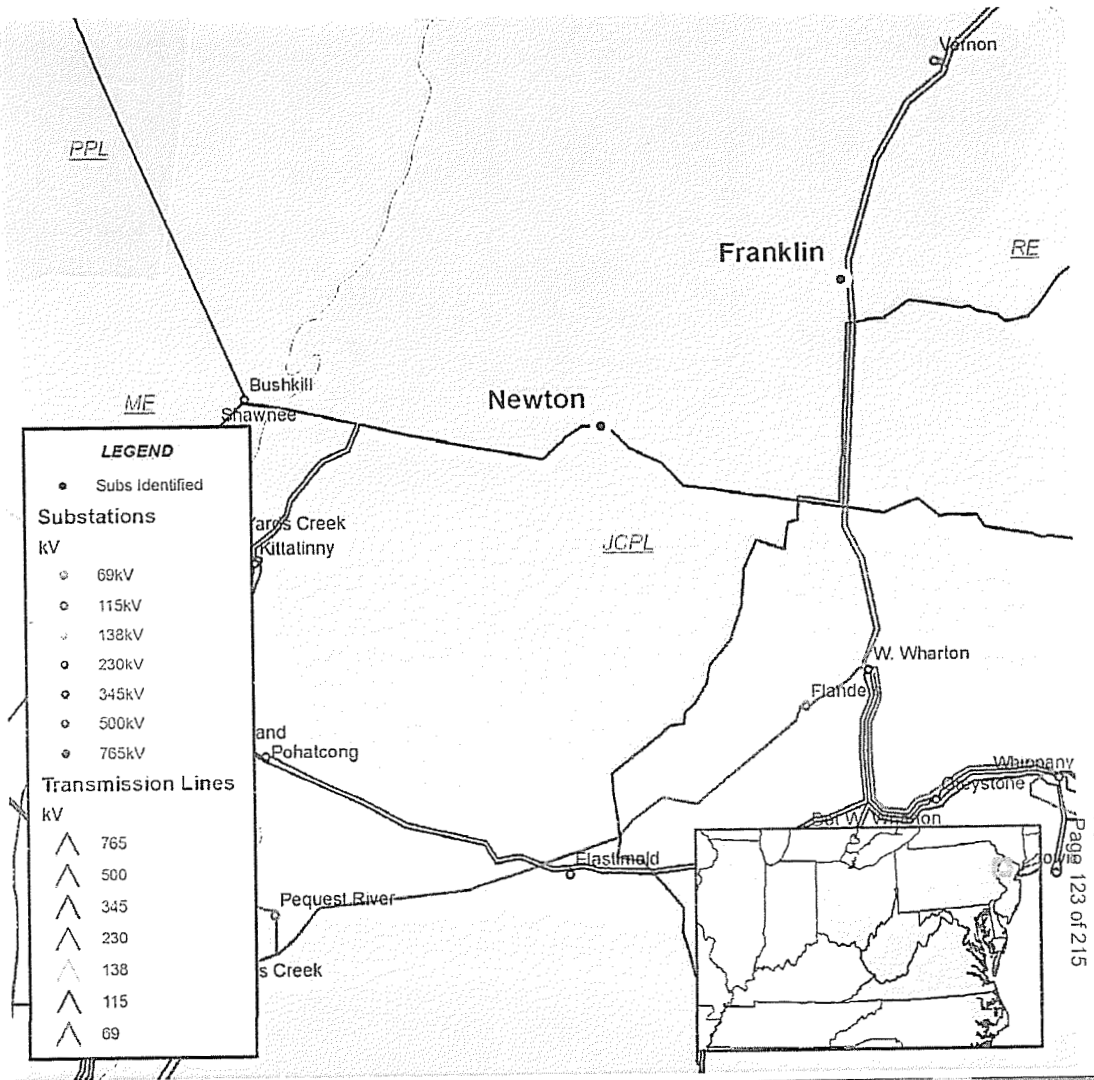
JCPL Transmission Zone

- FE planning criteria violation:
- The Newton – North Newton 34.5 kV (F708) line is overloaded pre-contingency and for the loss of the Franklin – Hamburg 34.5 kV line
- Proposed Solution:

  Upgrade the Newton – North Newton 34.5 kV (F708) line by adding a second underground 1250 CU egress cable (B1348)
- Estimated Project Cost:

  $0.092 M
- Expected IS Date:

  6/1/2011



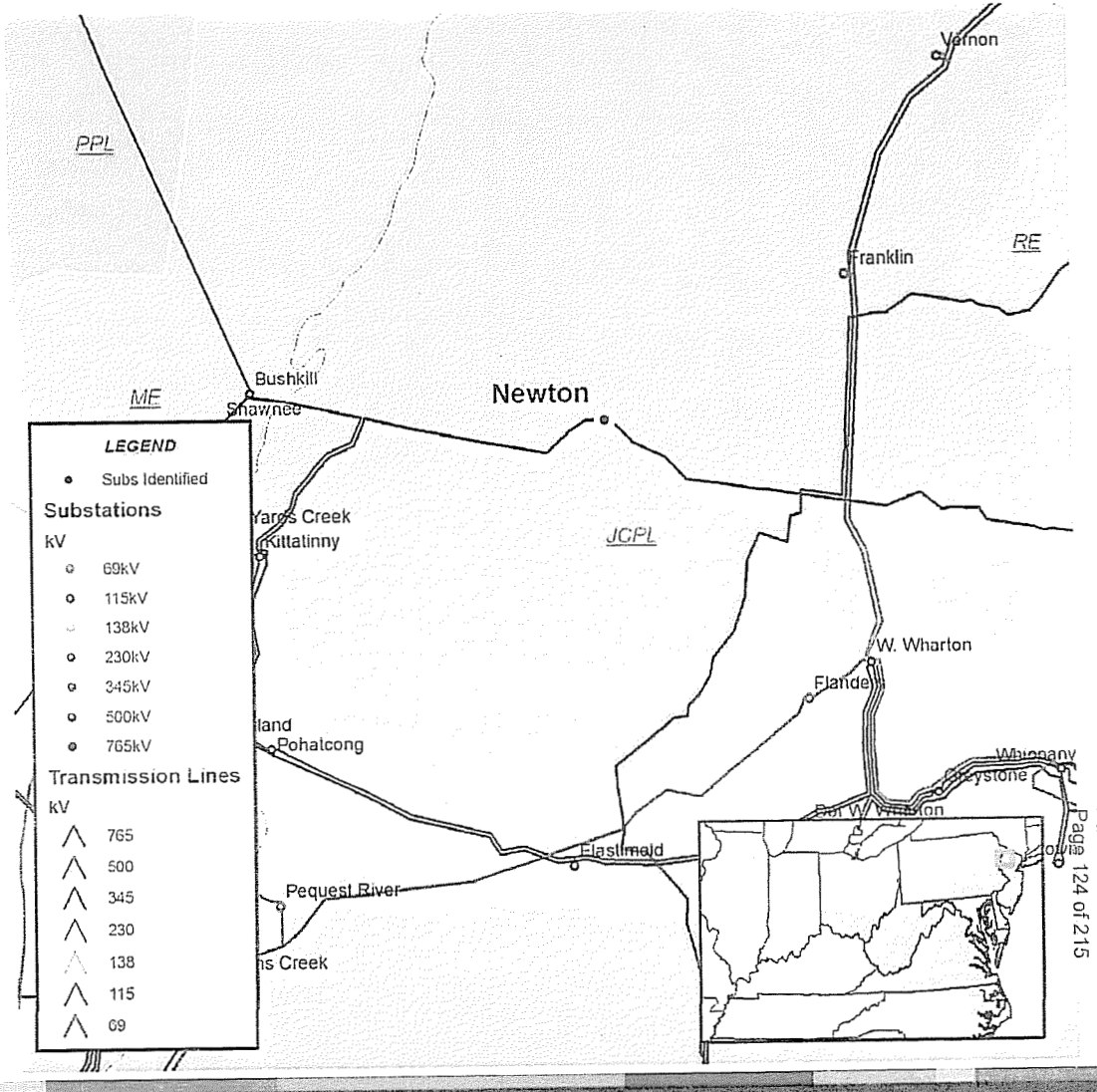
JCPL Transmission Zone

- FE planning criteria violation:
- Overload on the Newton – Woodruffs Gap 34.5 kV (A703) for the loss of the Montville – Newton 230 kV (N2214) line
- Proposed Solution:

  Reconductor 5.2 miles of the Newton – Woodruffs Gap 34.5 kV (A703) line with 556 ACSR (B1349)
- Estimated Project Cost:

  $0.932 M
- Expected IS Date:

  6/1/2012



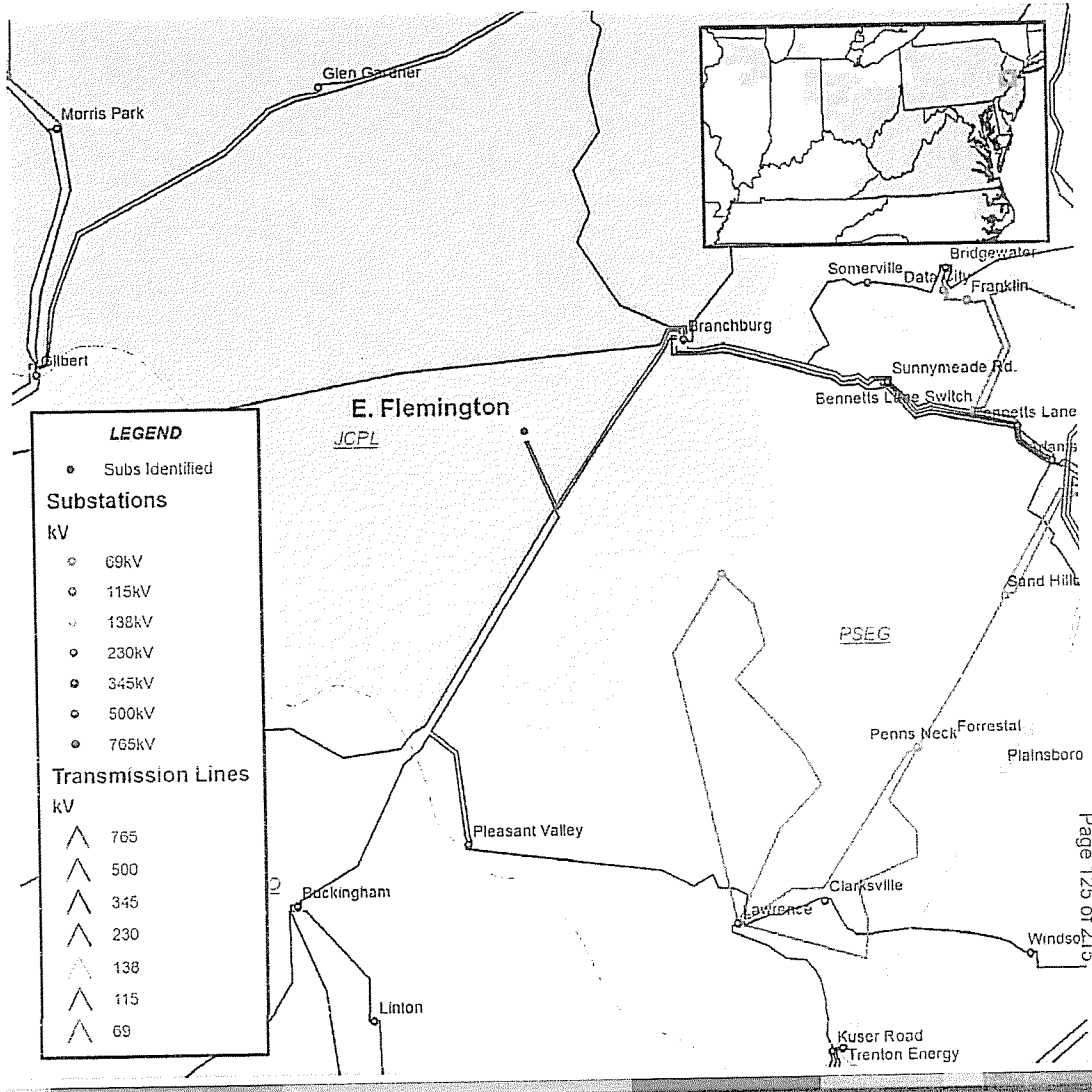
JCPL Transmission Zone

- FE planning criteria violation:
- The East Flemington – Flemington 34.5 kV (V724) line is overloaded pre-contingency and for the single contingency loss of the East Flemington - Pleasant Valley 230 kV (Q2243) line and East Flemington 230/34.5 kV #3 transformer
- Proposed Solution:

  Upgrade the East Flemington – Flemington 34.5 kV (V724) line by adding second underground 1000 AL egress cable and replacing 4/0 CU substation conductor with 500 CU (B1350)
- Estimated Project Cost:

  $0.126 M
- Expected IS Date:

  6/1/2011



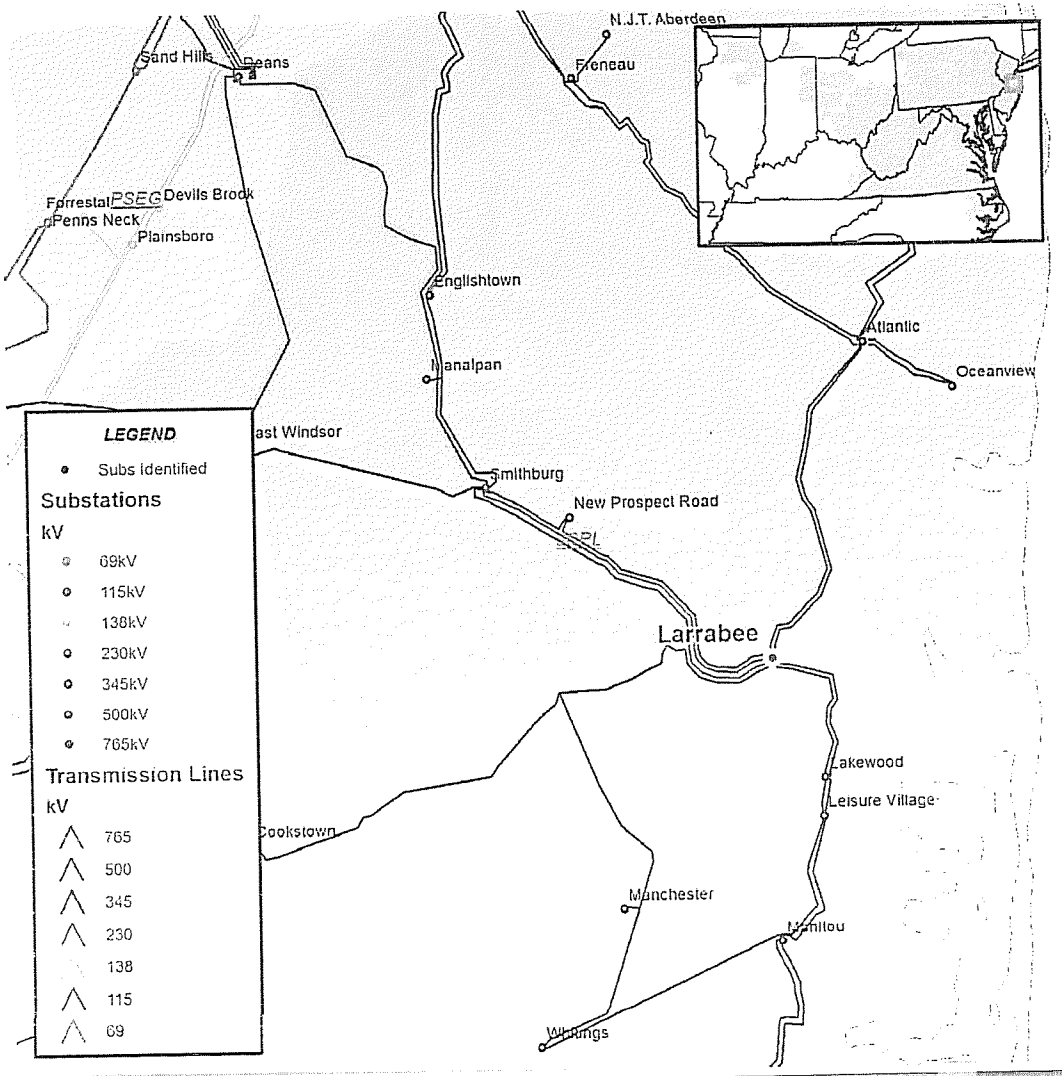
JCPL Transmission Zone

- FE planning criteria violation:
- Overload on the Larrabee 230/34.5 kV #4 transformer for the loss of the Lakewood – Larrabee 230 kV (Z2026) line and Larrabee 230/34.5 kV #3 transformer
- Proposed Solution:

  Add a 34.5 kV breaker on the Larrabee A and D bus tie (B1351)
- Estimated Project Cost:

  $0.249 M
- Expected IS Date:

  6/1/2013



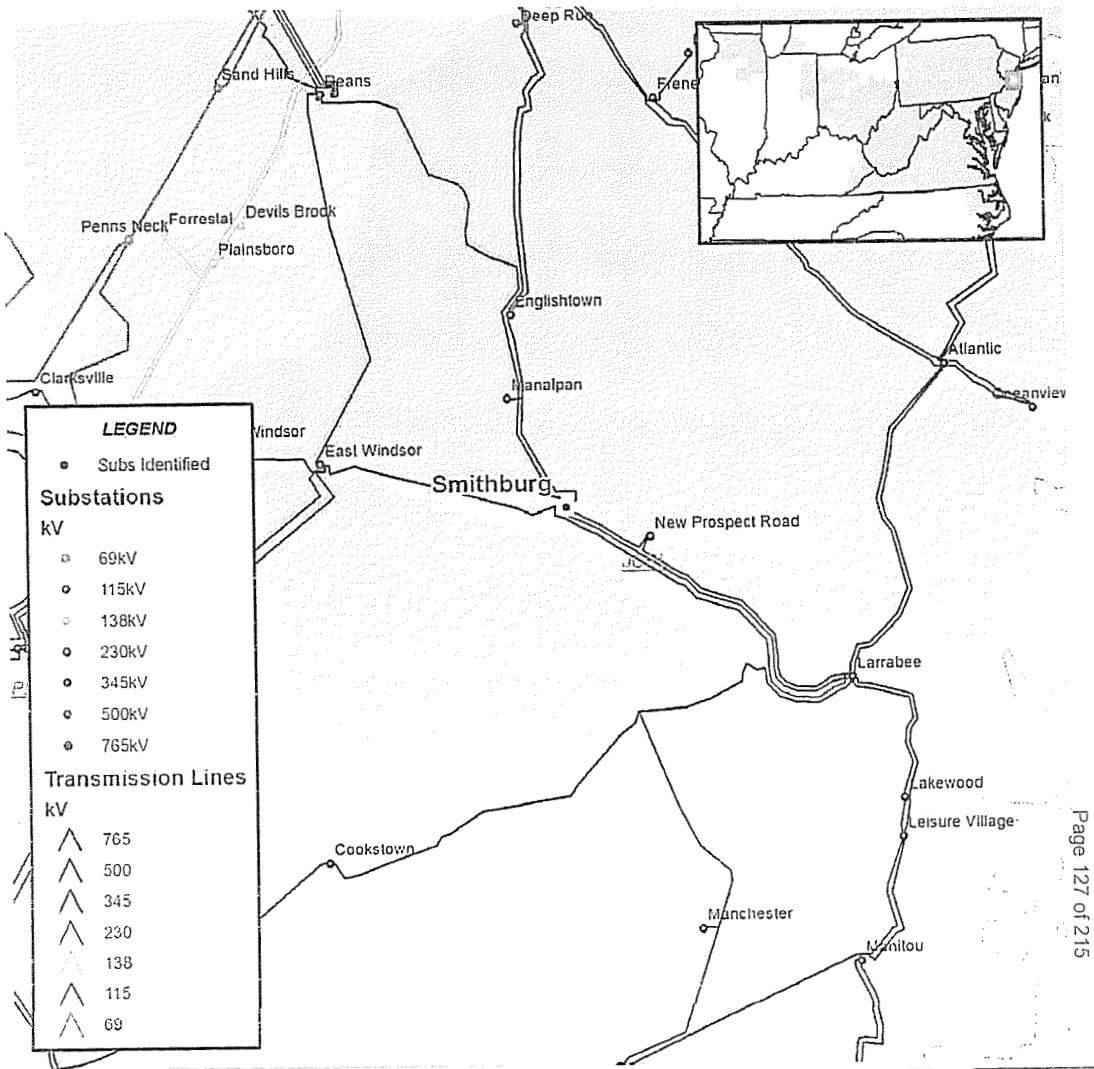
JCPL Transmission Zone

- FE planning criteria violation:
- The Smithburg – Centerstate Tap 34.5 kV (X752) line is overloaded pre-contingency and for the loss of the Farmingdale – Howell 34.5 kV (N66) line
- Proposed Solution:

  Upgrade the Smithburg – Centerstate Tap 34.5 kV (X752) line by adding second 200 ft underground 1250 CU egress cable (B1352)
- Estimated Project Cost:

  $0.093 M
- Expected IS Date:

  6/1/2011



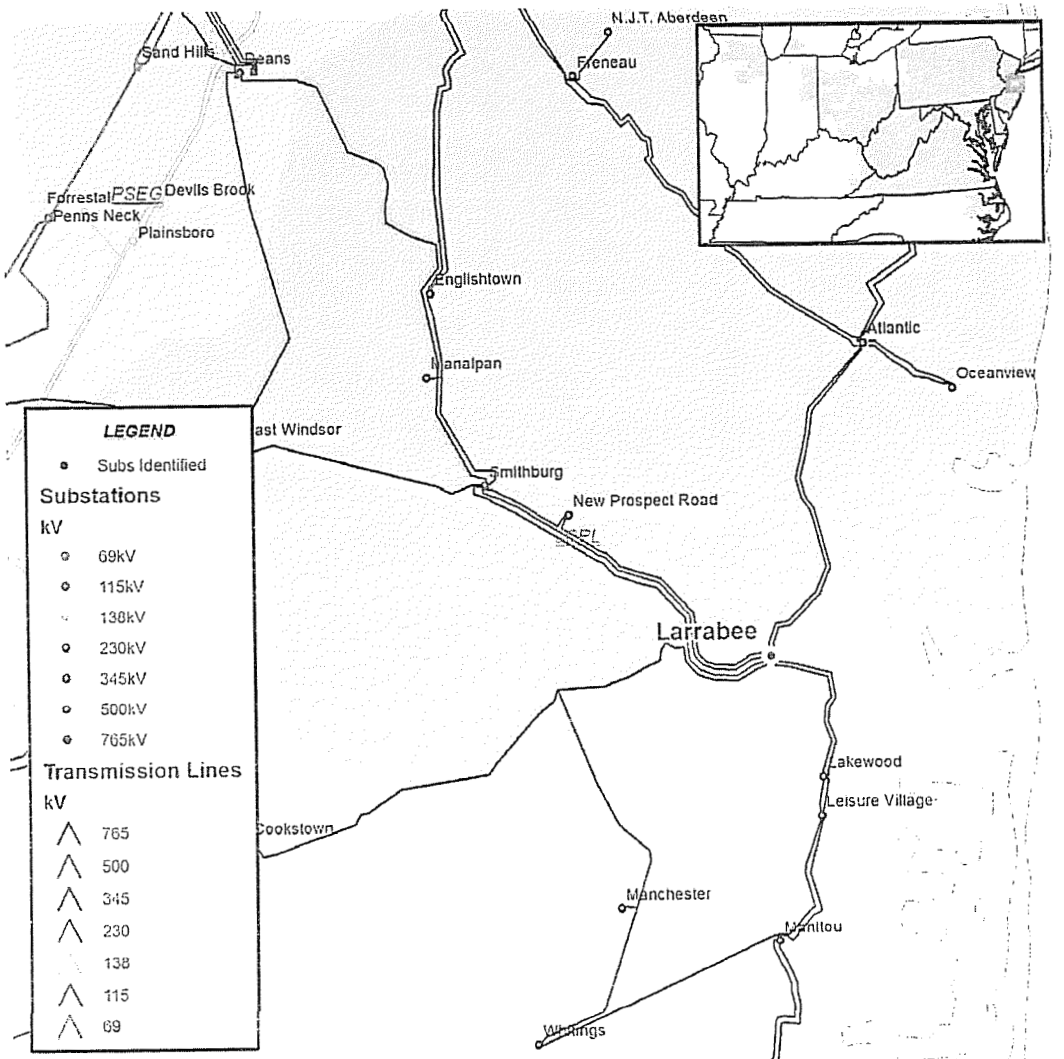
JCPL Transmission Zone

- FE planning criteria violation:
- Normal overload on Larrabee – Laurelton 34.5 kV (Q43) egress cable
- Proposed Solution:

  Upgrade the Larrabee – Laurelton 34.5 kV (Q43) line by adding second 700 ft underground 1250 CU egress cable (B1353)
- Estimated Project Cost:

  $0.092 M
- Expected IS Date:

  6/1/2011



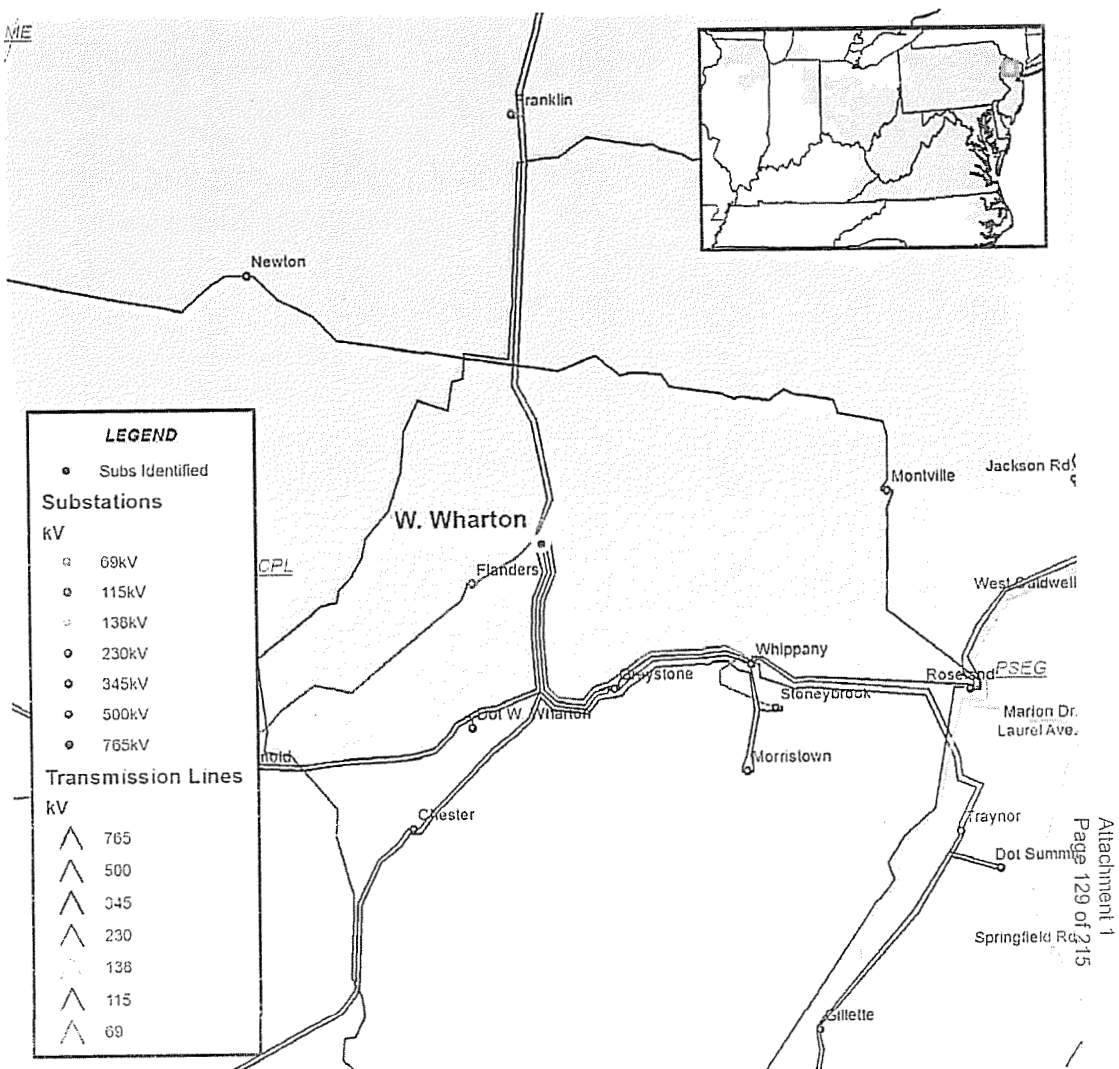
JCPL Transmission Zone

- FE planning criteria violation:
  - Overload on West Wharton – Rockaway Town Square Tap 34.5 kV (D706) line
  - Low voltage at Dickerson for the loss of the Greystone end of the (D706) 34.5 kV line
- Proposed Solution:

  Add four 34.5 kV breakers and re-configure the A/B bus at Rockaway (B1354)
- Estimated Project Cost:

  $1.456 M
- Expected IS Date:

  6/1/2012



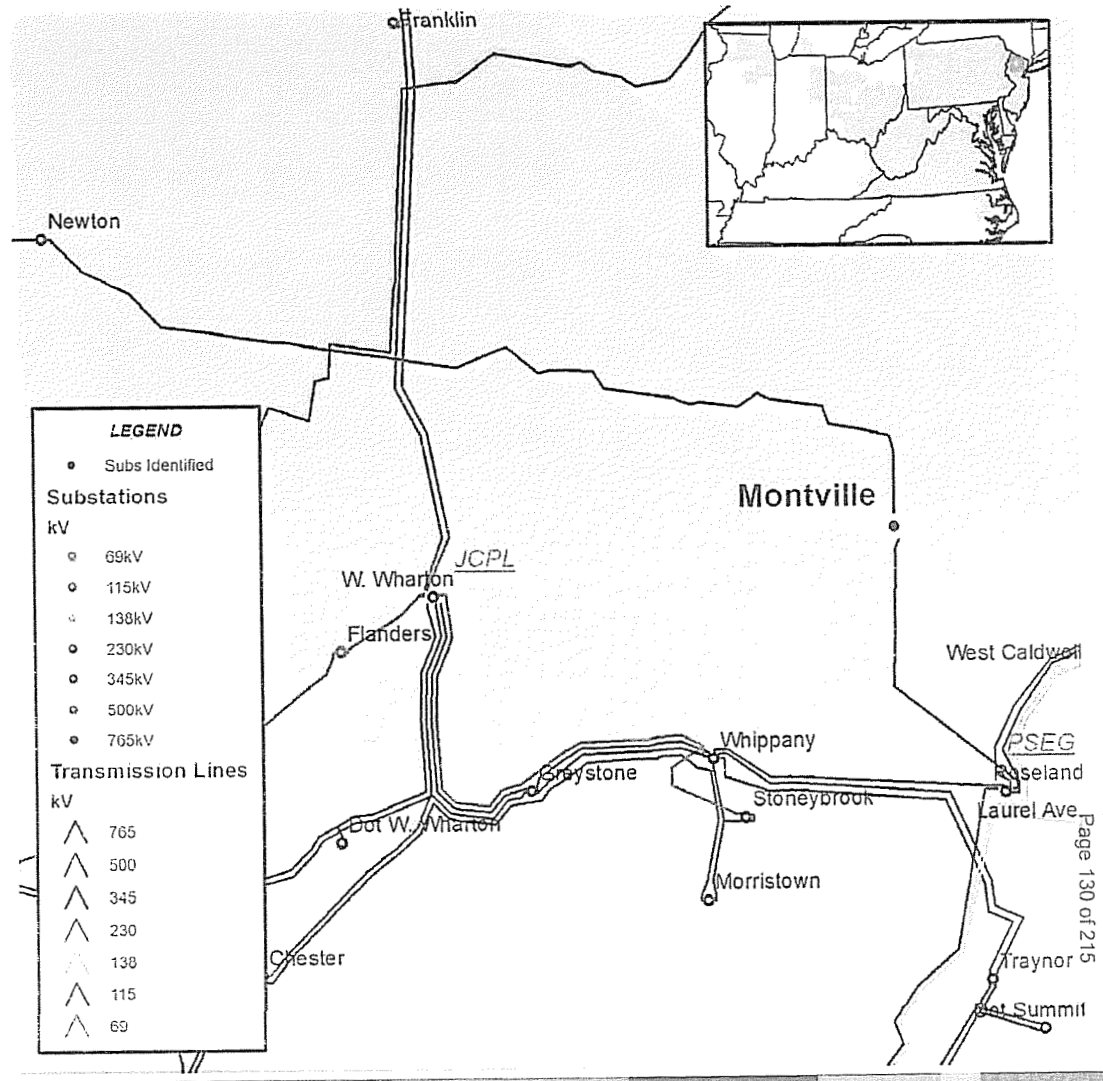
JCPL Transmission Zone

- FE planning criteria violation:
- Overload on the Montville – Butler 34.5 kV (H8) line section for the loss of the Riverdale – Butler 34.5 kV (I9) line
- Proposed Solution:

  Build a new second 3.3 mile 34.5 kV 556 ACSR line from Riverdale to Butler (B1355)
- Estimated Project Cost:

  $2.286 M
- Expected IS Date:

  6/1/2012



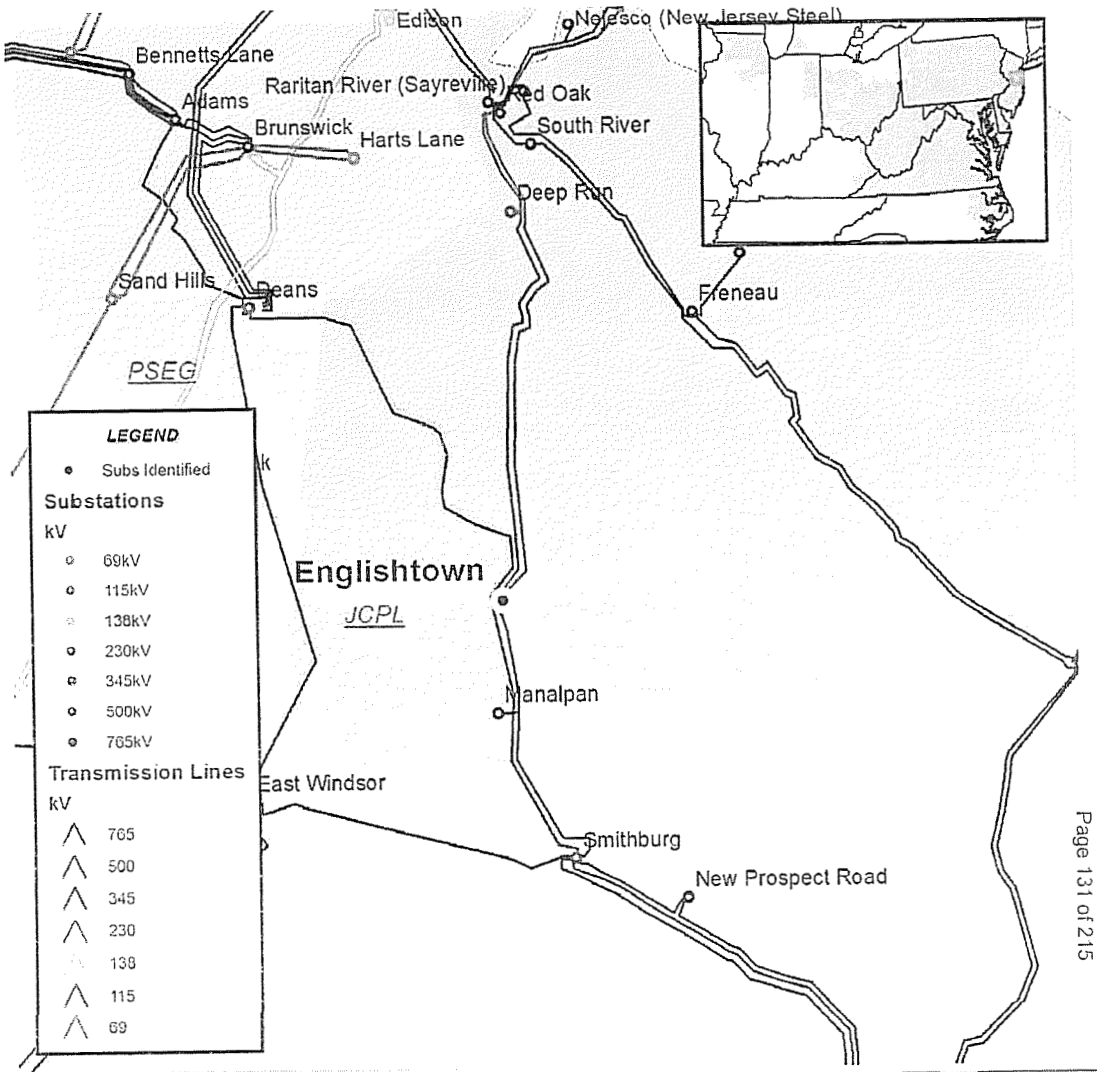
JCPL Transmission Zone

- FE planning criteria violation:
- Overload on Farmingdale – Howell 34.5 kV (N66) line section for the loss of the Englishtown end of the L12 line or the Freneau end of the F32 line or Smithburg 230/34.5 kV bank #2
- Overload on the Englistown – Freehold Tap 34.5 kV (L12) line section for the loss of Farmingdale end of N66 line
- Overload on Farmingdale – Larrabee 34.5 kV (W49) line section for the loss of the Atlantic – Larrabee 230 kV (R1032) line
- Proposed Solution:

  Build 10.2 miles of new 34.5 kV line from Larrabee – Howell (B1357)
- Estimated Project Cost:

  $9.483 M
- Expected IS Date:

  6/1/2013



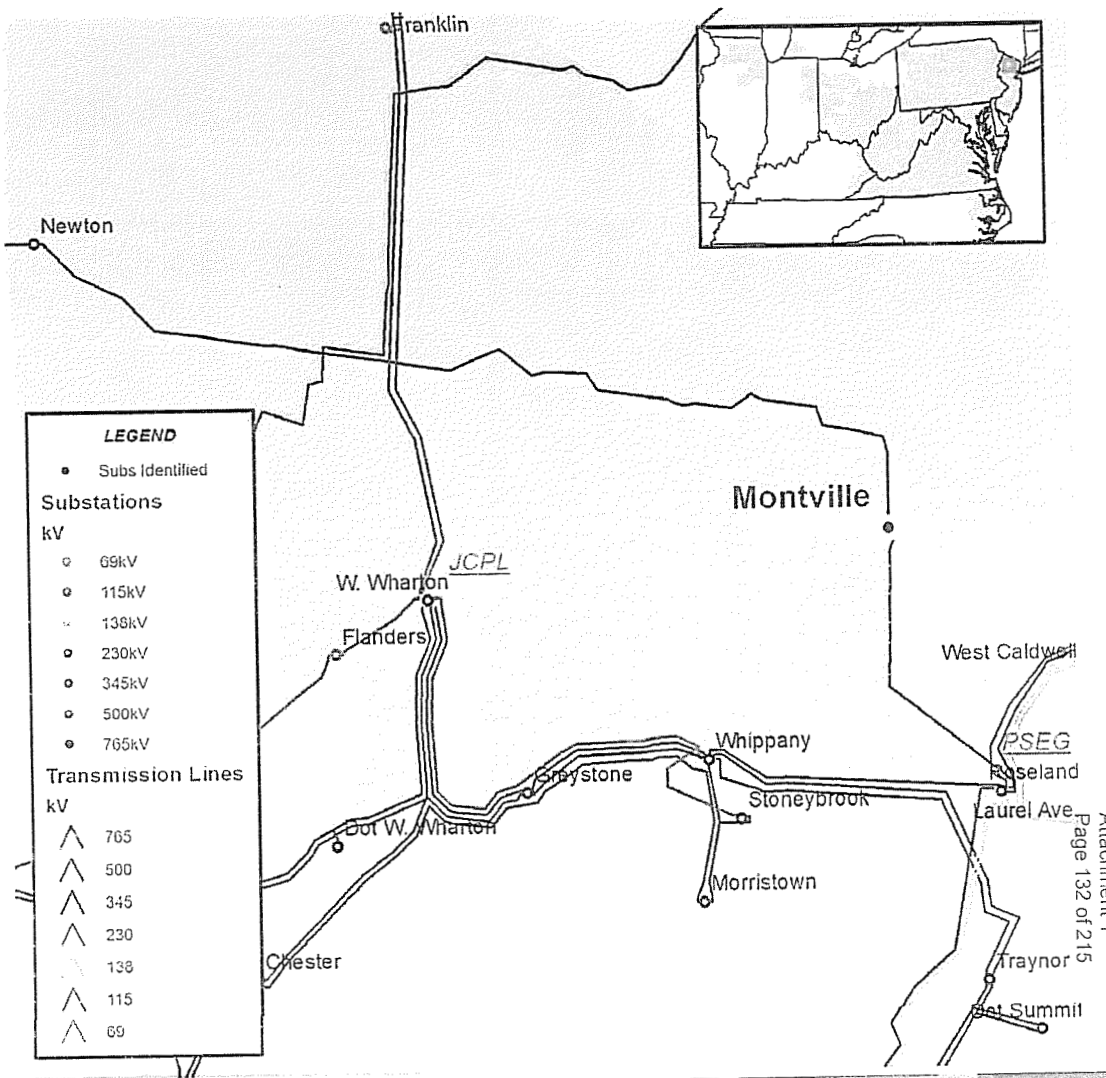
JCPL Transmission Zone

- FE planning criteria violation:
- Overload on the Montville – Parsippany 34.5 kV (D4) line for the loss of the Whippany – Halsey 34.5 kV (D4) line
- Proposed Solution:

  Install a Troy Hills 34.5 kV by-pass switch and reconfigure the Montville – Whippany 34.5 kV (D4) line (B1359)
- Estimated Project Cost:

  $0.032 M
- Expected IS Date:

  6/1/2011



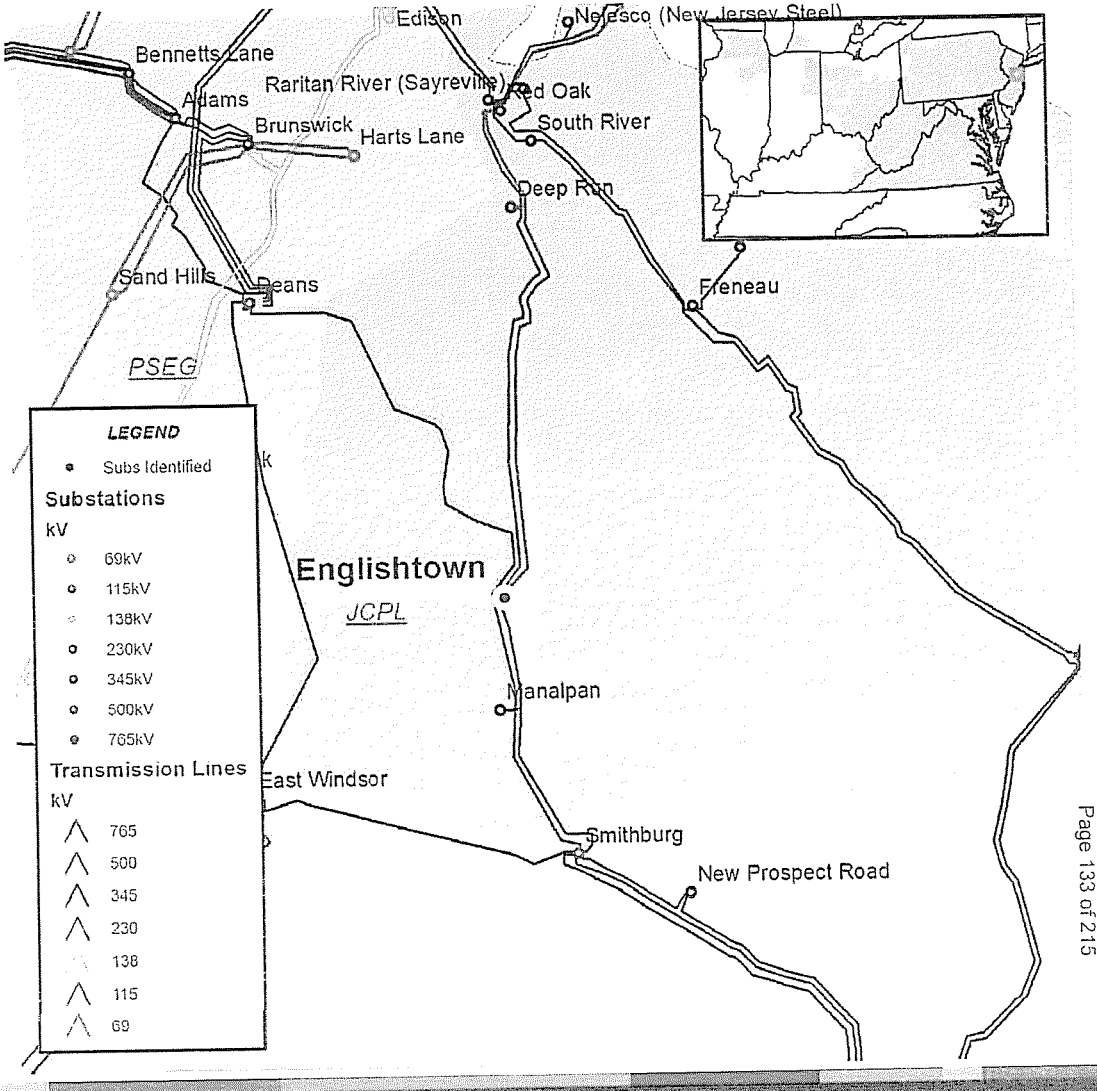
JCPL Transmission Zone

- FE planning criteria violation:
- Overload on the Englishtown – Freehold Tap 34.5 kV (L12) line for the loss of the Smithburg – Centerstate Tap 34.5 kV (X752) line section
- Proposed Solution:

  Reconductor 0.7 miles of the Englishtown – Freehold Tap 34.5 kV (L12) line with 556 ACSR (B1360)
- Estimated Project Cost:

  $0.422M
- Expected IS Date:

  6/1/2012



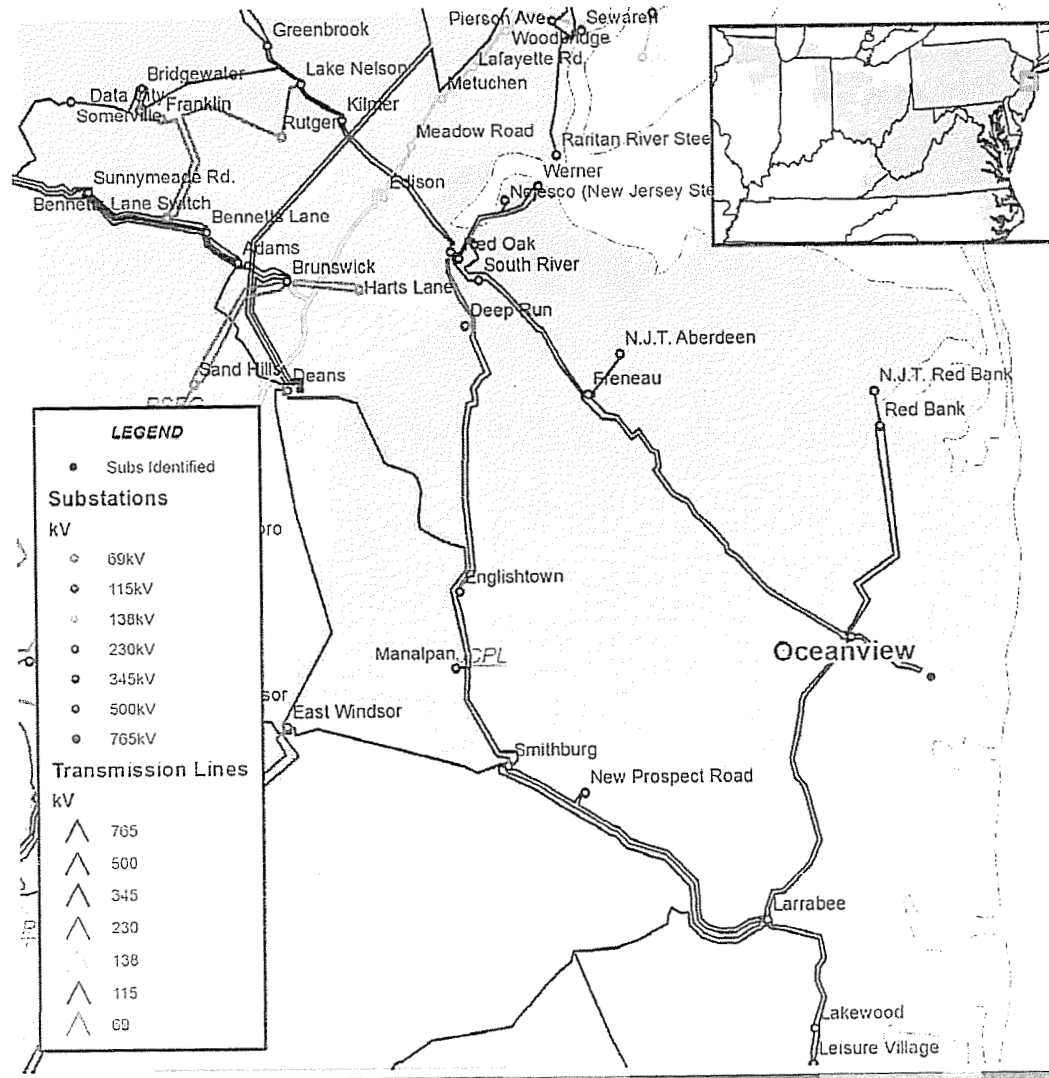
JCPL Transmission Zone

- FE planning criteria violation:
- Overload on the Oceanview – Neptune Tap 34.5 kV (D130) line for the loss of the Asbury Tap – Whitesville 34.5 kV (U47) line
- Proposed Solution:

  Reconductor the Oceanview – Neptune Tap 34.5 kV (D130) line with 795 ACSR (B1361)
- Estimated Project Cost:

  $0.436 M
- Expected IS Date:

  6/1/2012



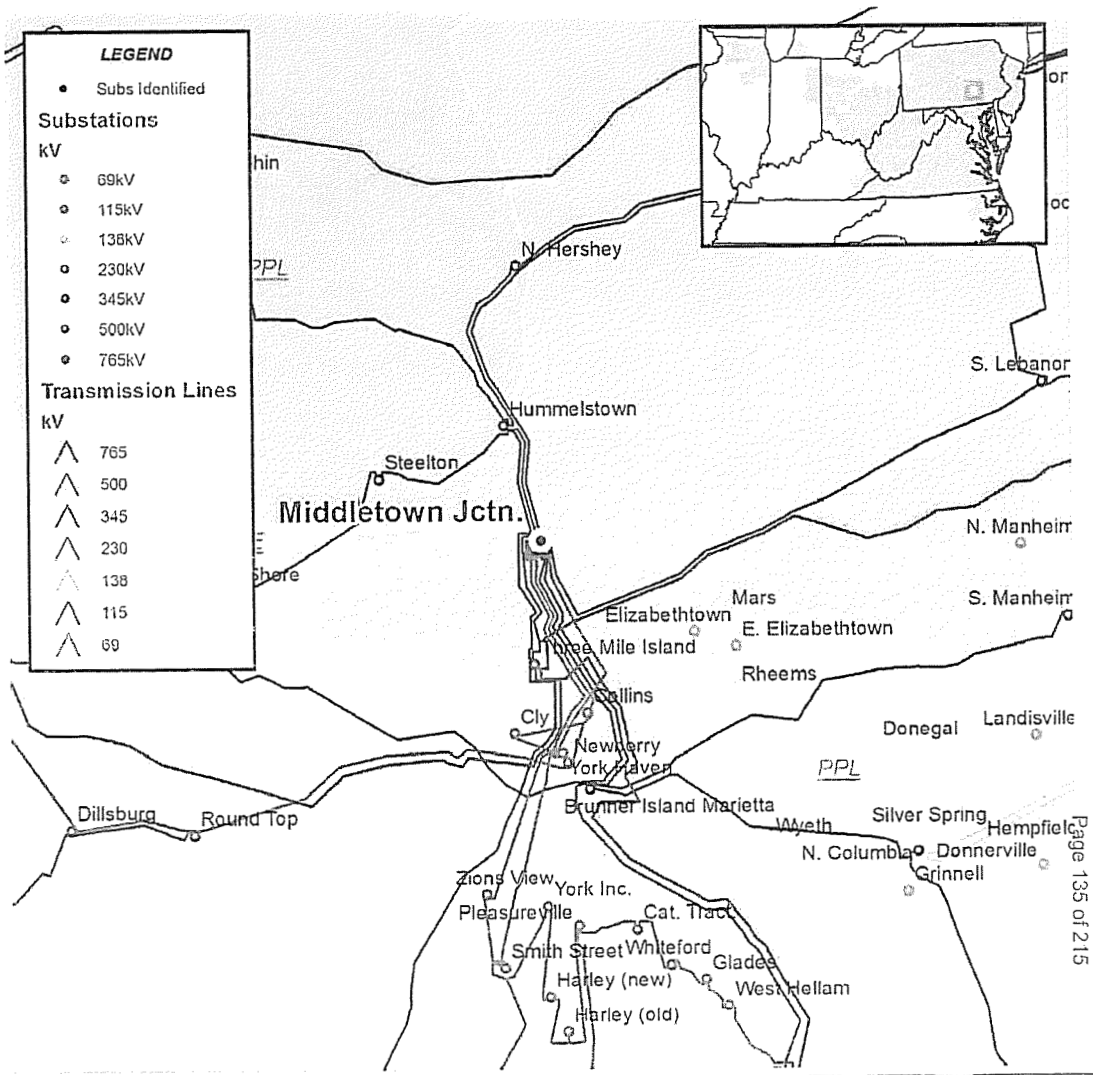
MetEd Transmission Zone

- FE planning criteria violation:
- Low voltage in Olmstead area for the loss of the Middletown Junction 230/69 kV transformer #3
- Proposed Solution:

  Install 23.8 MVAR capacitor at Wood Street 69 kV (B1362)
- Estimated Project Cost:

  $0.518 M
- Expected IS Date:

  6/1/2011



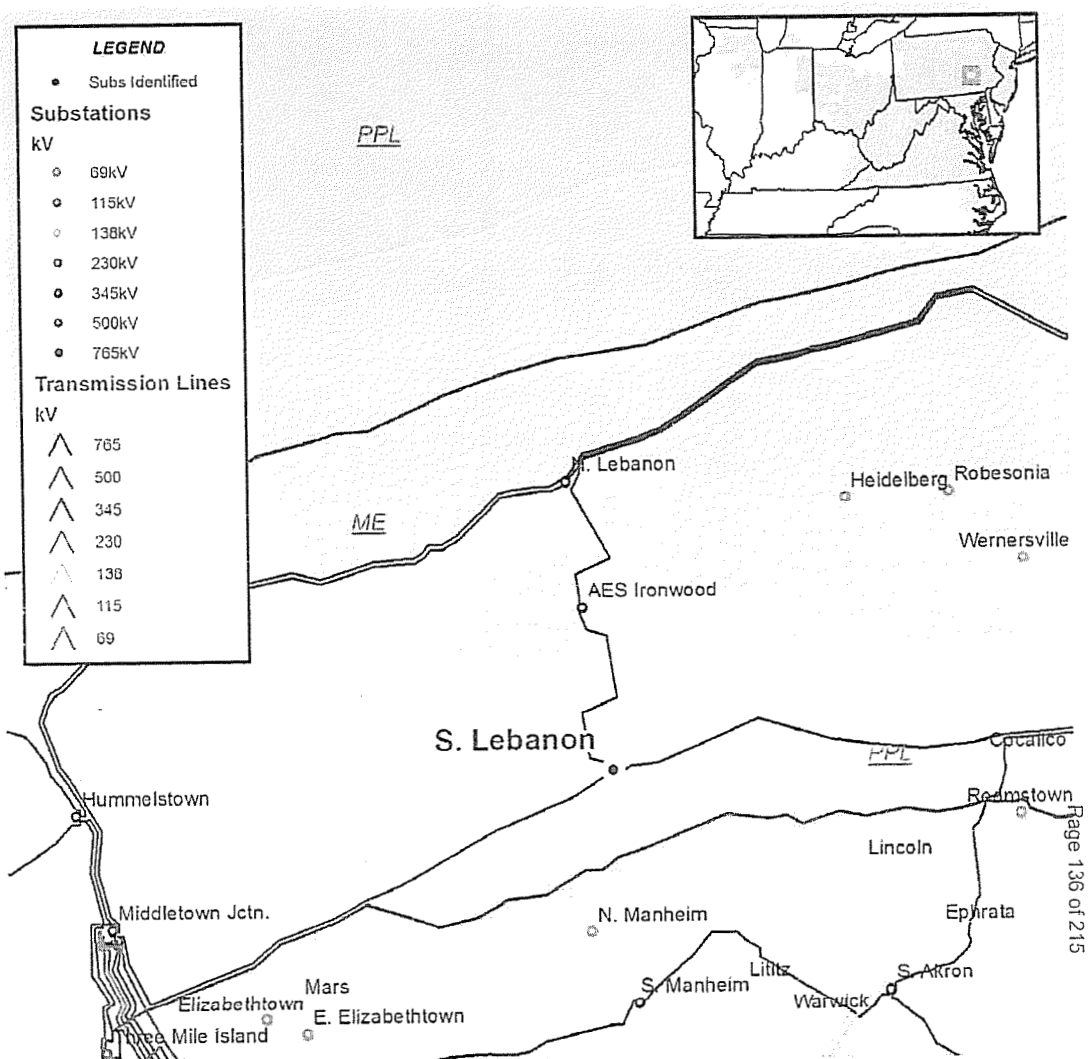
MetEd Transmission Zone

- FE planning criteria violation:
- Overload on South Lebanon 230/69 kV transformer #1 for the loss of South Lebanon 230/69 kV transformer #2
- Proposed Solution:

  Upgrade South Lebanon 230/69 kV transformer #1 by replacing 69 kV substation conductor with 1590 ACSR (B1364)
- Estimated Project Cost:

  $0.034 M
- Expected IS Date:

  6/1/2011



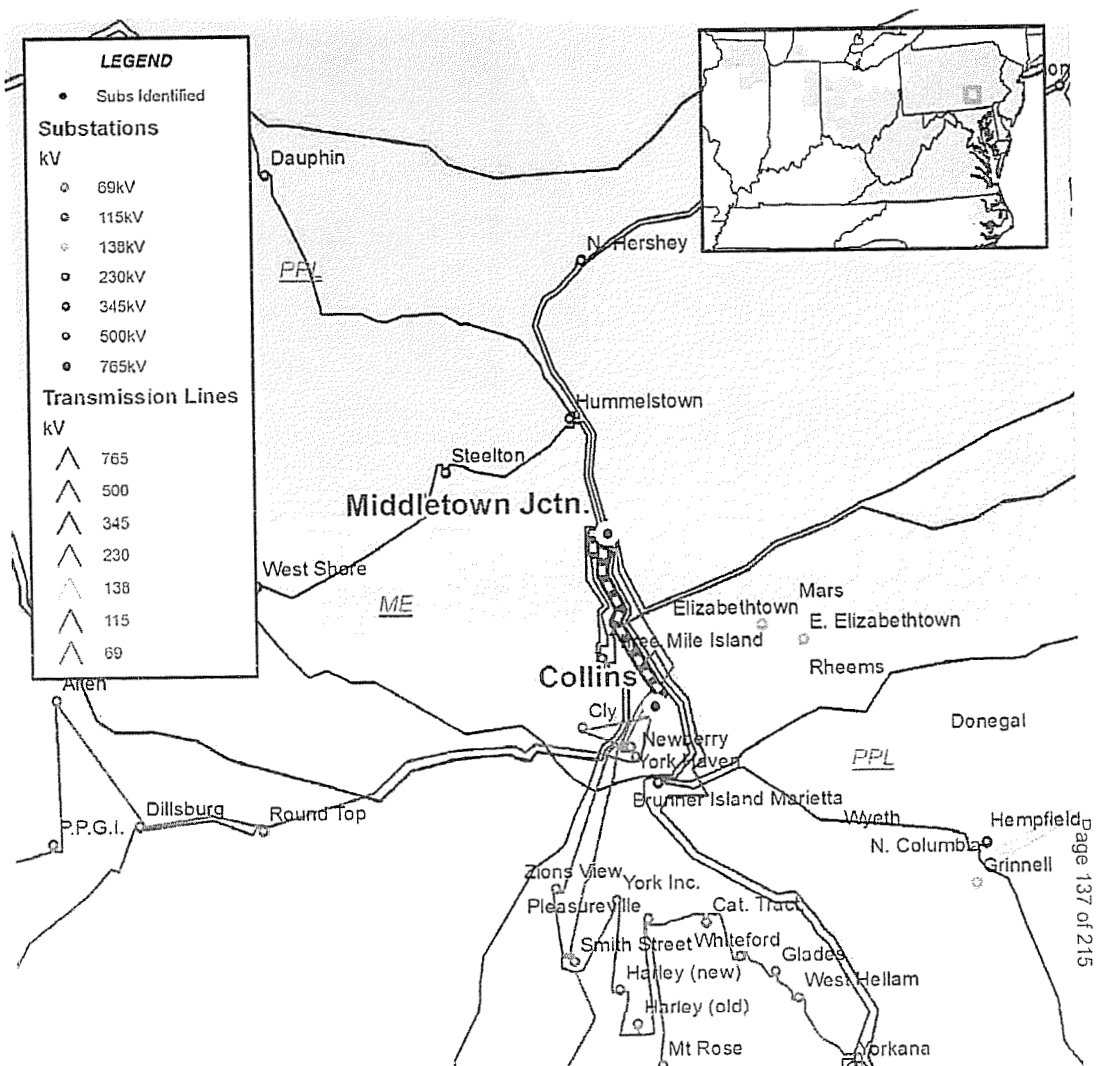
MetEd Transmission Zone

- FE planning criteria violation:
- Overload on the Middletown Junction – Collins 115 kV line for the loss of the Huntertown – Texas Eastern 115 kV line or for an N-1-1 outage of Roxbury – Carlisle and Huntertown – Texas Eastern 115 lines
- Proposed Solution:

  Reconductor 0.32 miles of the Middletown Junction - Collins 115 kV (975) line with 336 ACSR (B1365)
- Estimated Project Cost:

  $0.344 M
- Expected IS Date:

  6/1/2011



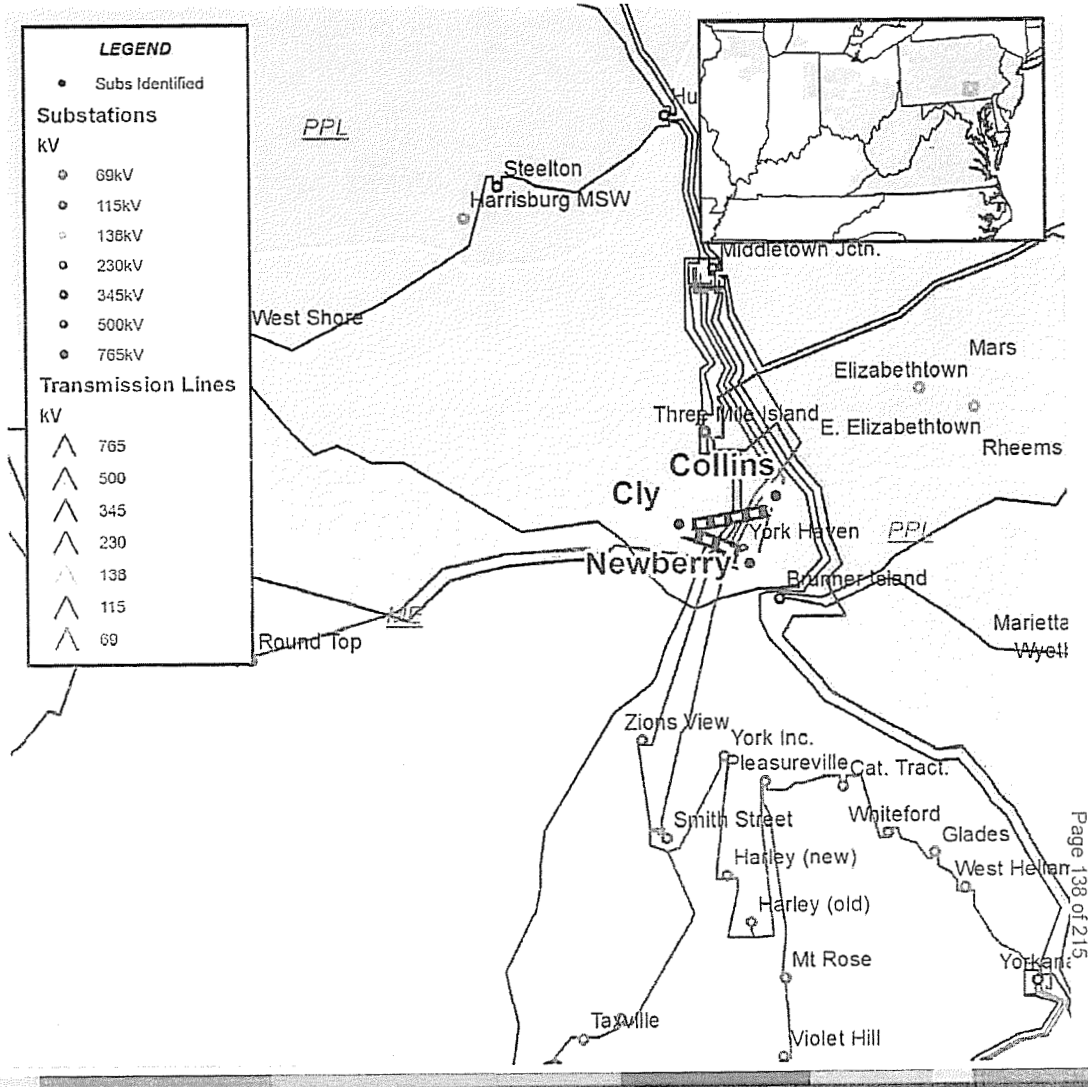
MetEd Transmission Zone

- FE planning criteria violation:
- Overload on Collins – Cly – Newberry 115 kV line for the loss of the Hunterstown – Texas Eastern 115 kV line or for N-1-1 outage of Roxbury – Carlisle and Hunterstown – Texas Eastern 115 kV lines
- Proposed Solution:

  Reconductor 5 miles of the Collins – Cly - Newberry 115 kV (975) line with 795 ACSR (B1366)
- Estimated Project Cost:

  $2.387 M
- Expected IS Date:

  6/1/2012



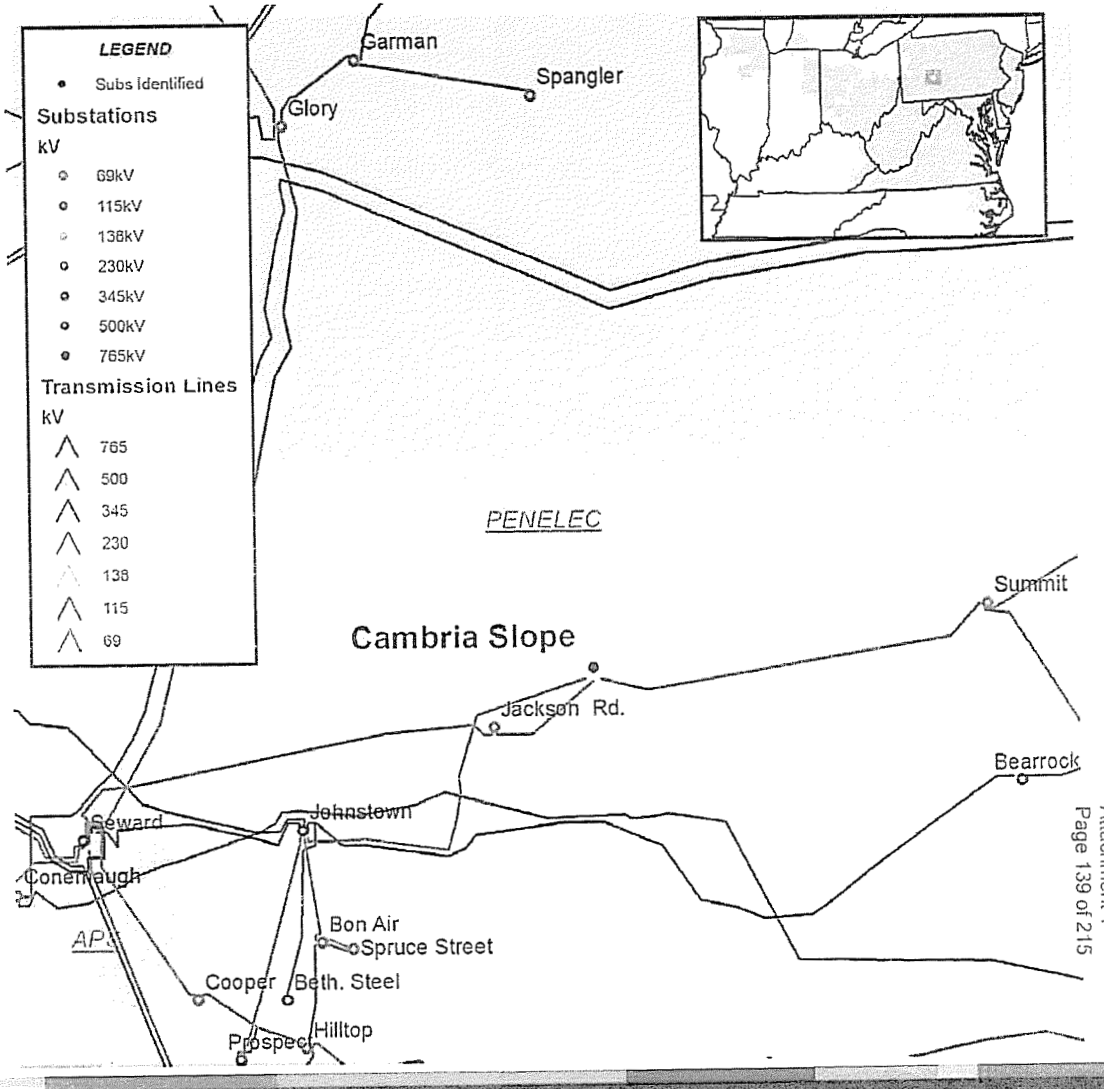
PenElec Transmission Zone

- FE planning criteria violation:
- Overload on Cambria Slope 115/46 kV transformer for the loss of the Cambria Slope – Summit 115 kV line
- Proposed Solution:

  Replace the Cambria Slope 115/46 kV 50 MVA transformer with 75 MVA (B1367)
- Estimated Project Cost:

  $1.26 M
- Expected IS Date:

  6/1/2011



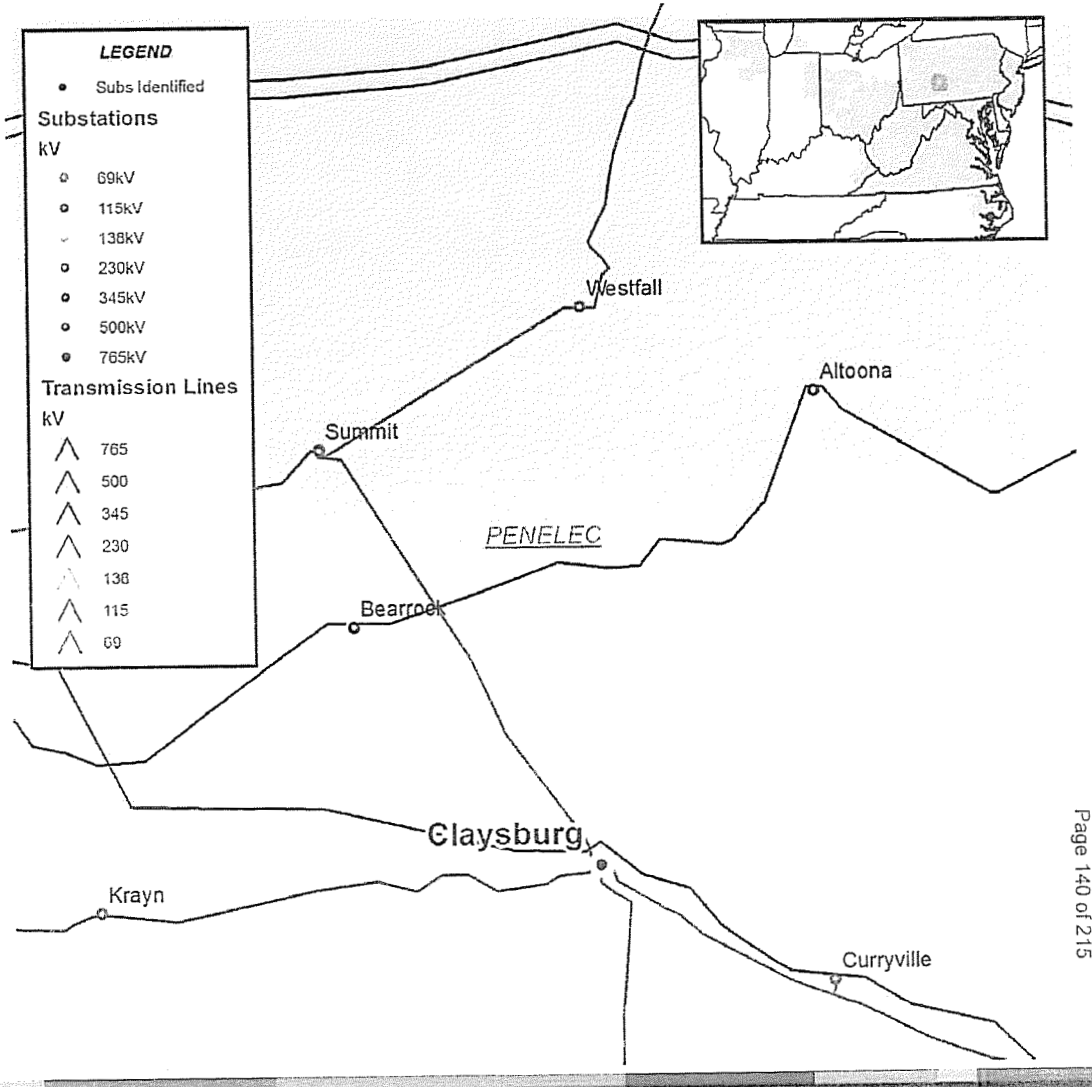
PenElec Transmission Zone

- FE planning criteria violation:
- Overload on the Claysburg 115/46 kV transformer for the loss of the Altoona – Bear Rock 230 kV line
- Proposed Solution:

  Replace the Claysburg 115/46 kV 30 MVA transformer with 75 MVA (B1368)
- Estimated Project Cost:

  $1.492 M
- Expected IS Date:

  6/1/2011



PenElec Transmission Zone

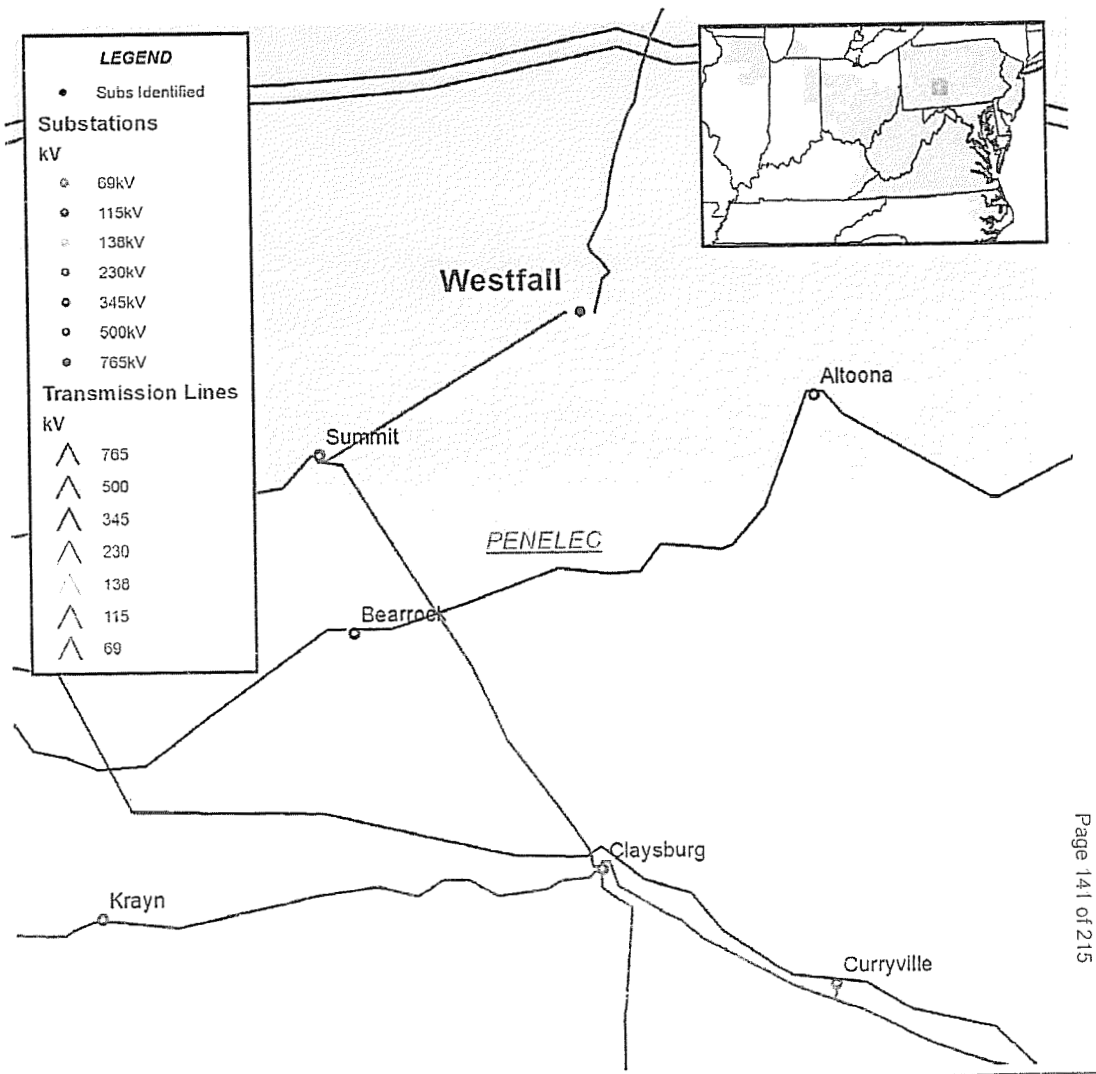
- FE planning criteria violation:
- Overload on the Westfall 115/46 kV transformer for the loss of the Altoona – Bear Rock 230 kV line
- Proposed Solution:

  Replace the substation conductor at Westfall with 795 ACSR on the Westfall S21 Tap 46 kV line (B1369) and Install a 3rd 115/46 kV transformer at Westfall (B1370)
- Estimated Project Cost:

  $0.034 M (conductor)

  $3.832 M (transformer)
- Expected IS Date:

  6/1/2011



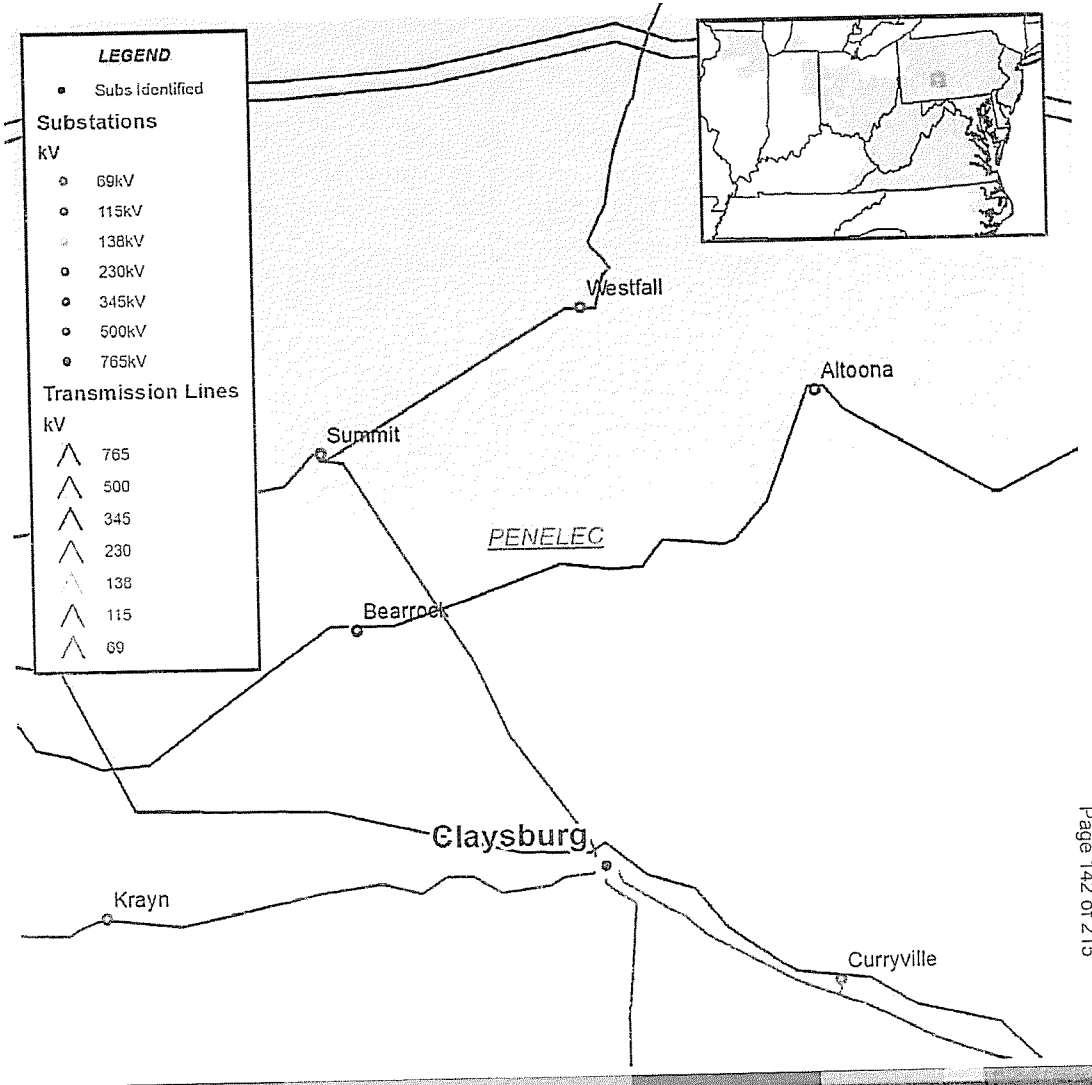
PenElec Transmission Zone

- FE planning criteria violation:
- Overload on the Claysburg - HCR 46 kV line segment for the loss of the Altoona – Bear Rock 230 kV line
- Proposed Solution:

  Reconductor 2.6 miles of the Claysburg - HCR 46 kV line with 636 ACSR (B1371)
- Estimated Project Cost:

  $0.633 M
- Expected IS Date:

  6/1/2011



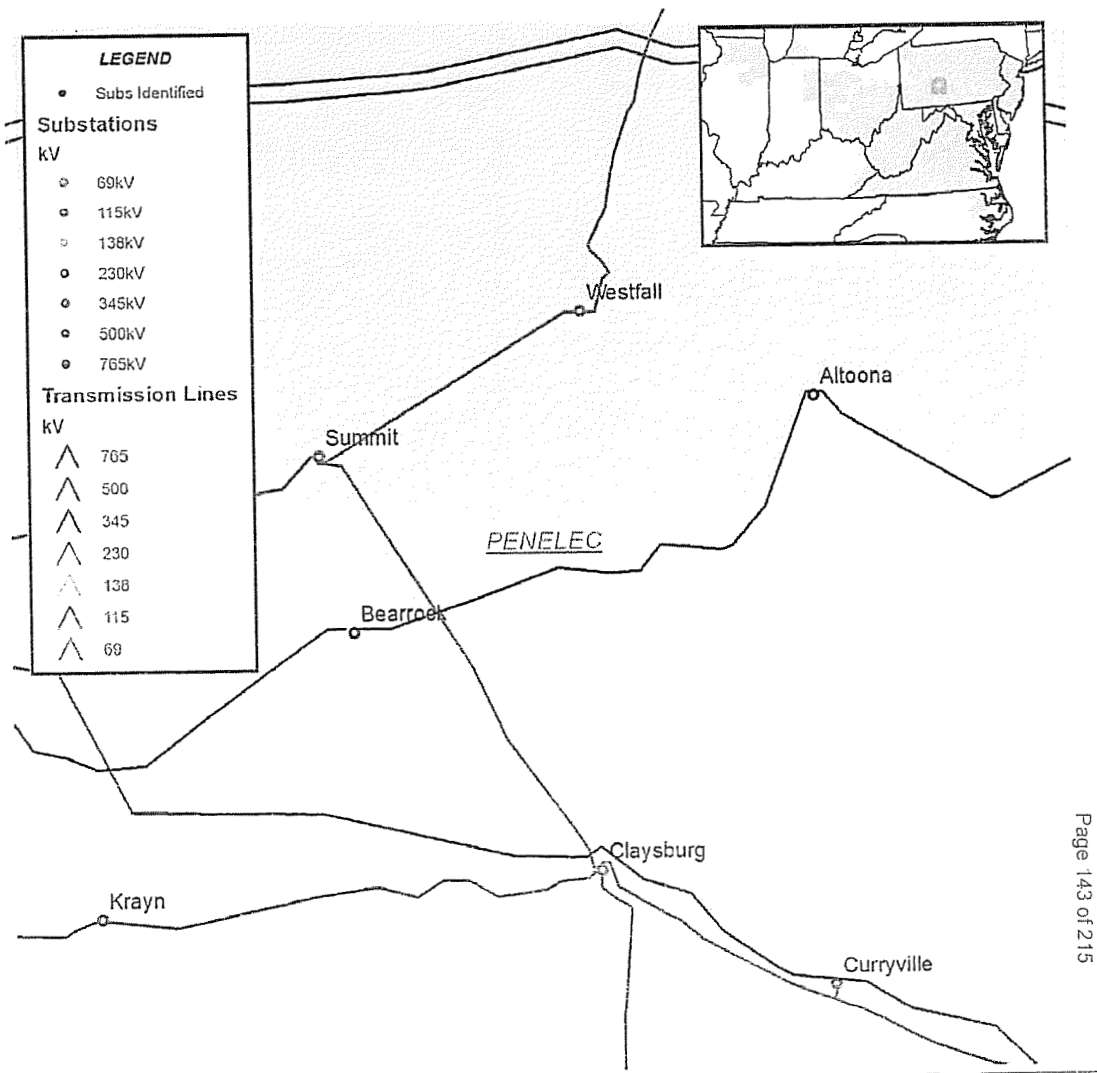
PenElec Transmission Zone

- FE planning criteria violation:
- Overload on Hollidaysburg – HCR 46 kV for the loss of the Altoona – Bear Rock 230 kV line
- Proposed Solution:

  Replace substation conductor with 795 ACSR on the Hollidaysburg – HCR 46 kV (B1372)
- Estimated Project Cost:

  $0.044 M
- Expected IS Date:

  6/1/2011



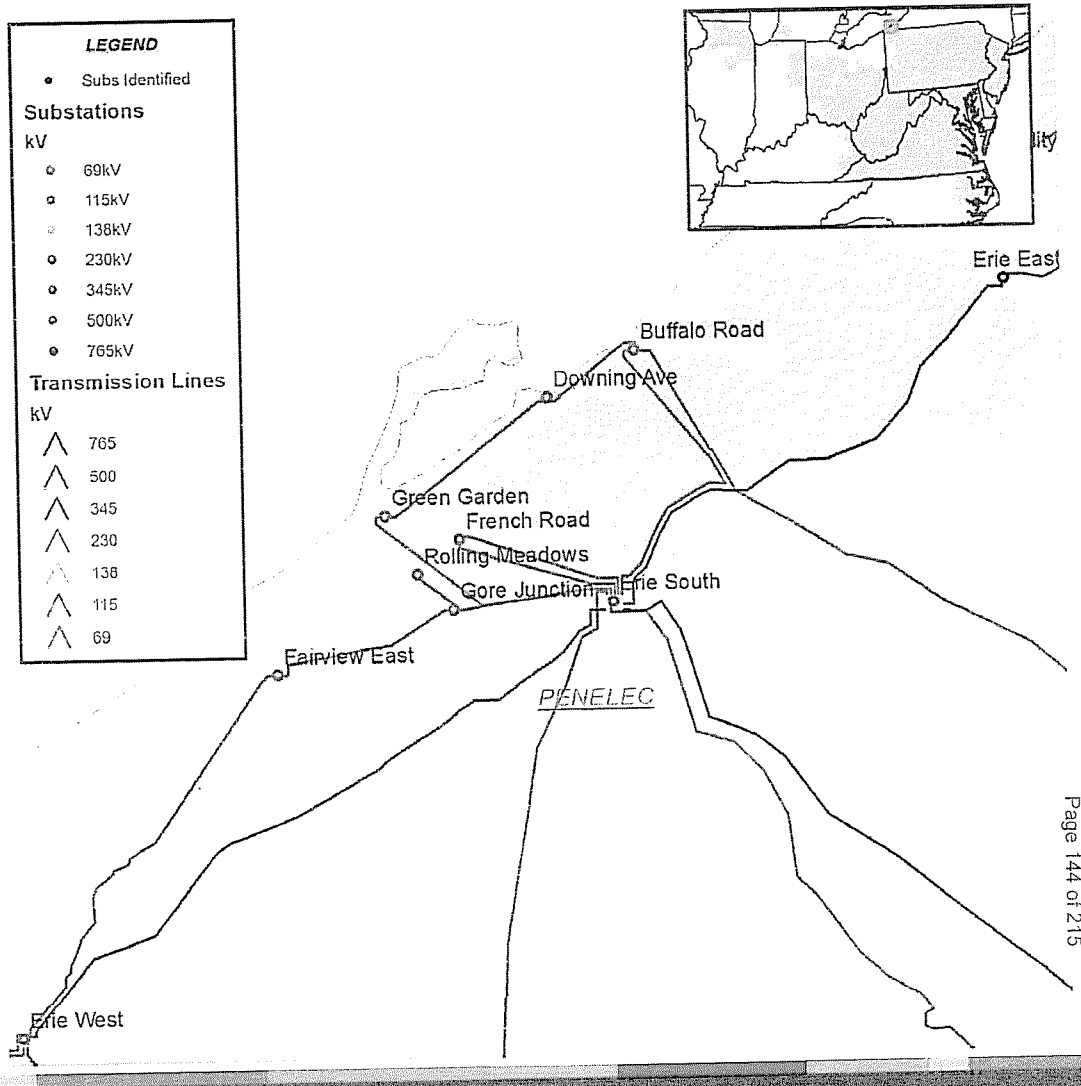
PenElec Transmission Zone

- Common Mode Voltage Violation:
- Low voltages in the Erie area for the 345 kV stuck breaker CB8 at Erie West substation
- Proposed Solution:

  Re-configure the Erie West 345 kV substation, add a new circuit breaker and relocate the Ashtabula line exit (B1373).
- Estimated Project Cost:

  $0.955 M
- Expected IS Date:

  6/1/2012

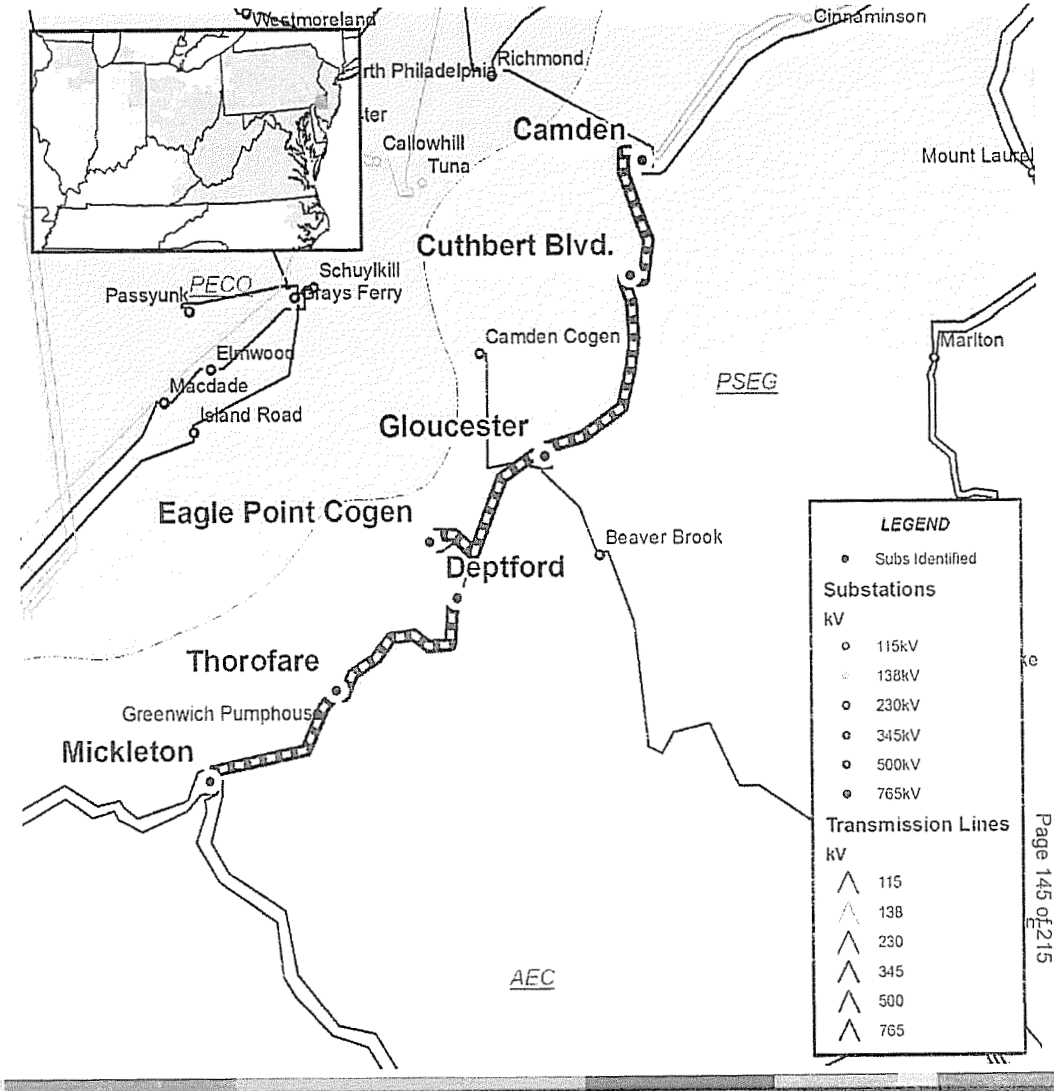


PSEG Transmission Zone

- Generation Deliverability, Load Deliverability, N-1-1 and Baseline Violations:

- The following 230 kV circuits in PSE&G area are overloaded for several contingencies.
  - -Gloucester – Cuthbert 230 kV
  - -Cuthbert – Camden 230 kV
  - -Eagle Point – Gloucester 230 kV
  - -Thorofare – Deptford 230 kV
  - -Mickleton – Thorofare 230 kV

- Continued on next slide

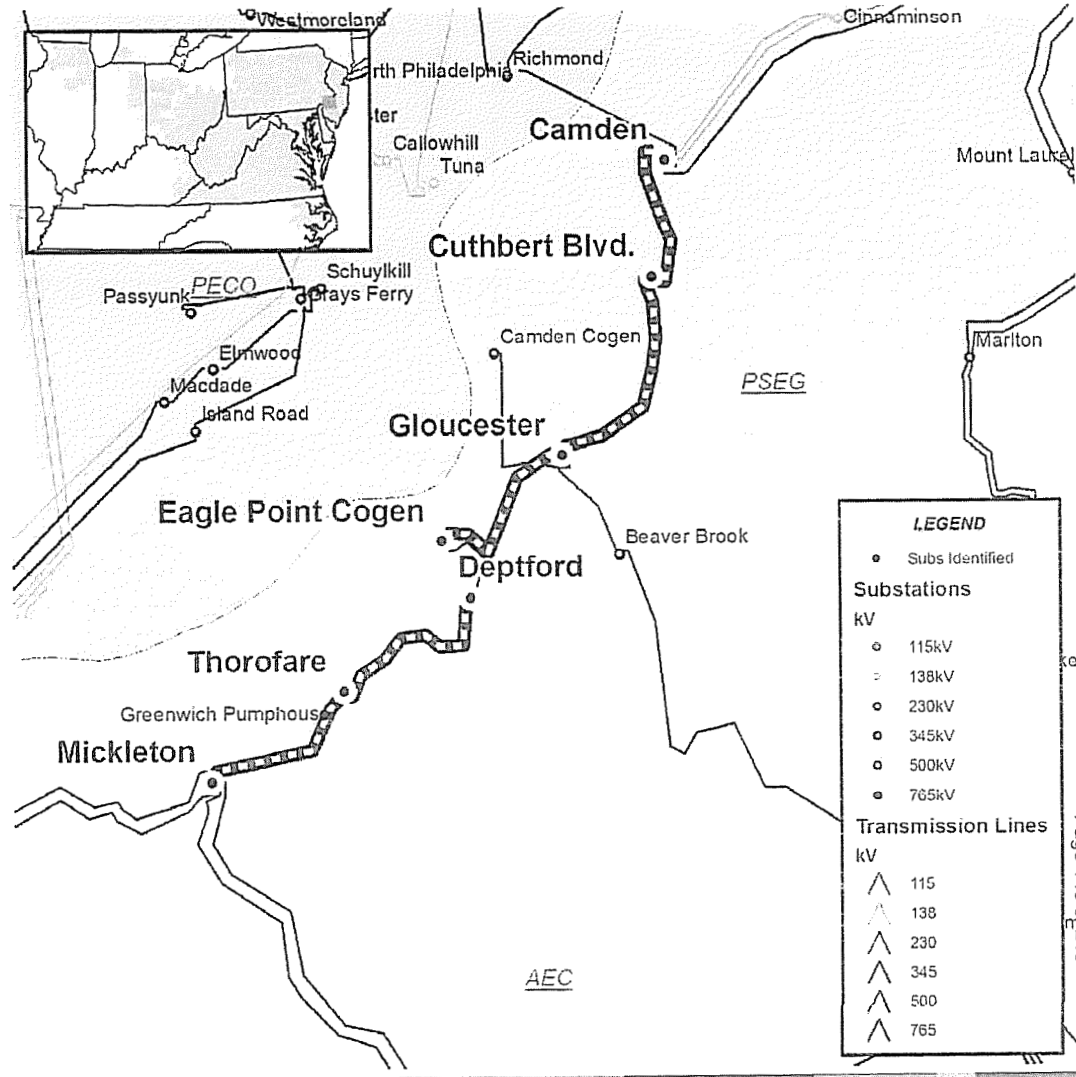


PSEG Transmission Zone

- Continued from previous slide
- Recommended solution:
  - Build two new parallel underground circuits from Gloucester to Camden (via Cuthbert Blvd)
  - Install shunt reactor at Gloucester to offset cable charging
  - Reconfigure the Cuthbert station to breaker and a half scheme
  - Build a second 230 kV parallel overhead circuit from Mickleton – Gloucester and reconductor the existing Mickleton – Gloucester 230 kV circuit
  - Reconductor the Camden – Richmond 230 kV circuit and upgrade terminal equipment at Camden and Richmond substations
  - Reconductor Richmond – Waneeta 230 kV and replace terminal equipment at Richmond and Waneeta substations
  - (B1398)
- Estimated Project Cost:

  $249 M
- Expected IS Date:

  6/1/2015



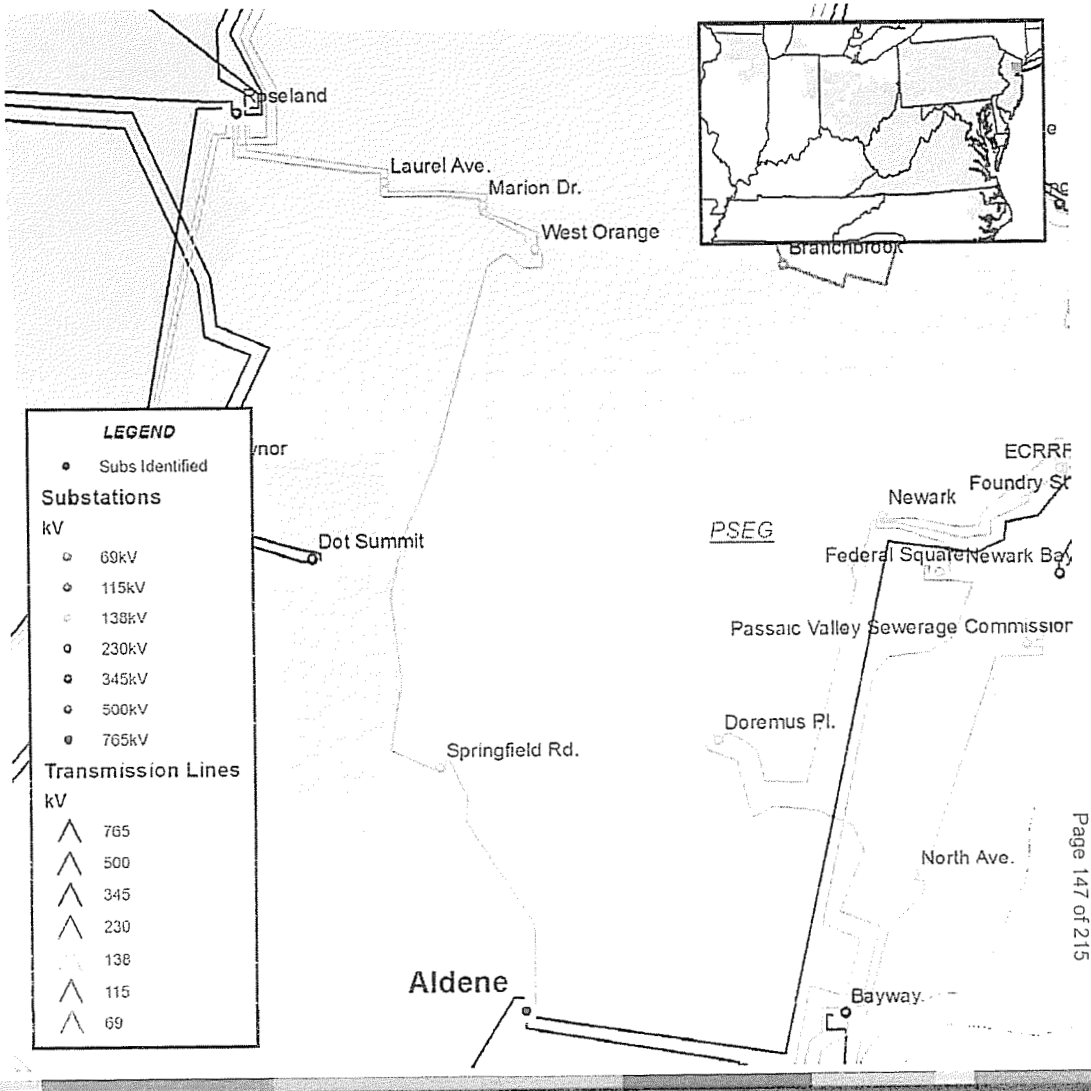
PSEG Transmission Zone

- N-1-1 Thermal violation:
- The Aldene 230/138 kV transformer is overloaded for the loss of the Roseland – West Orange 230 kV "S" and "T" circuits
- Recommended Solution:

  Convert the 138 kV path from Aldene –Springfield Road - West Orange to 230 kV (B1399)
- Estimated Project Cost:

  $75 M
- Expected IS Date:

  6/1/2014



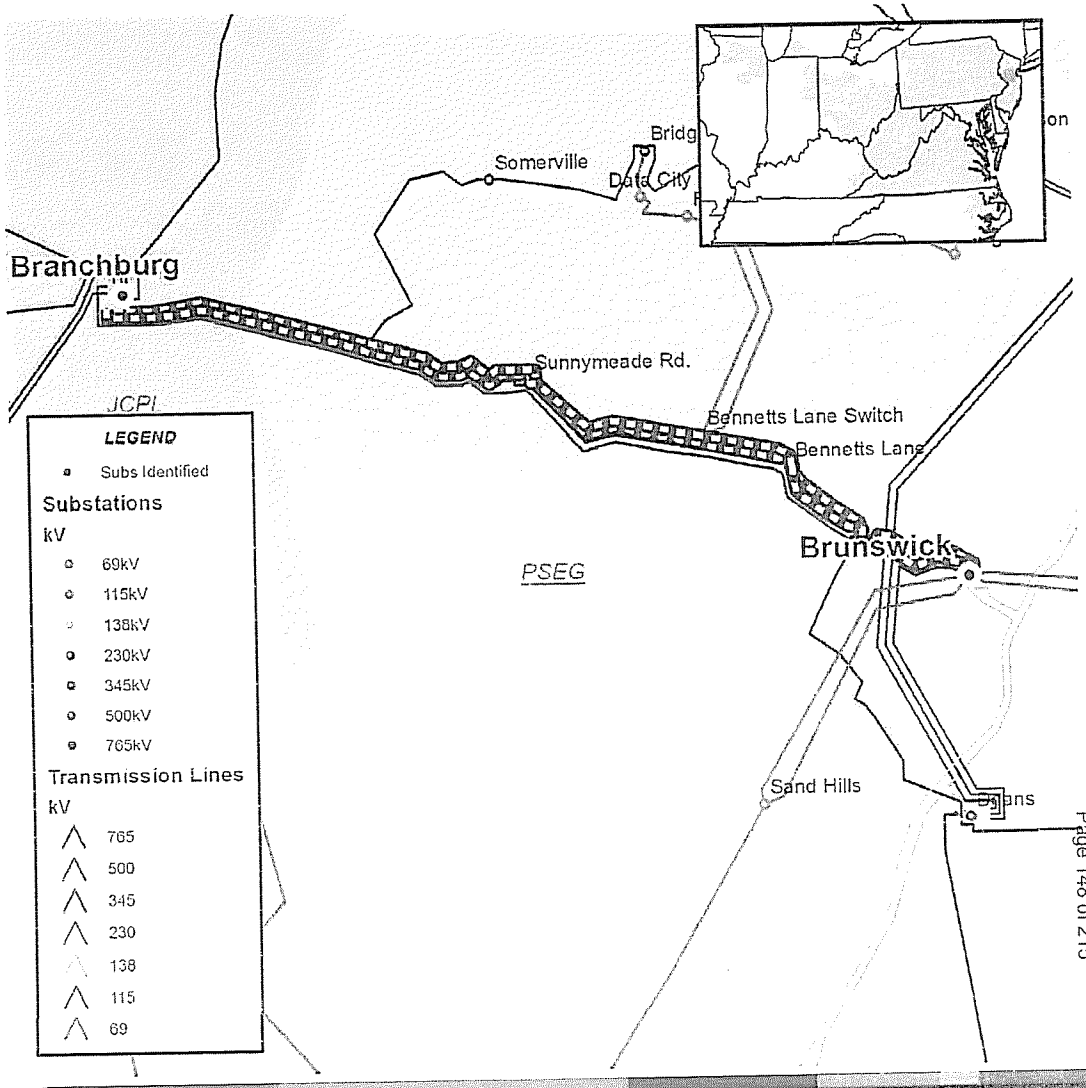
PSEG Transmission Zone

- PSEG Reliability criteria:
- Load loss exceeds 300 MW for the 230 kV tower line outage of the "F-2232" and "X-2224" circuits from Branchburg – Brunswick.
- Recommended Solution:

  Install 230 kV circuit breakers at Bennetts Lane "F" and "X" buses (B1400).
- Estimated Project Cost:

  $3.0 M
- Expected IS Date:

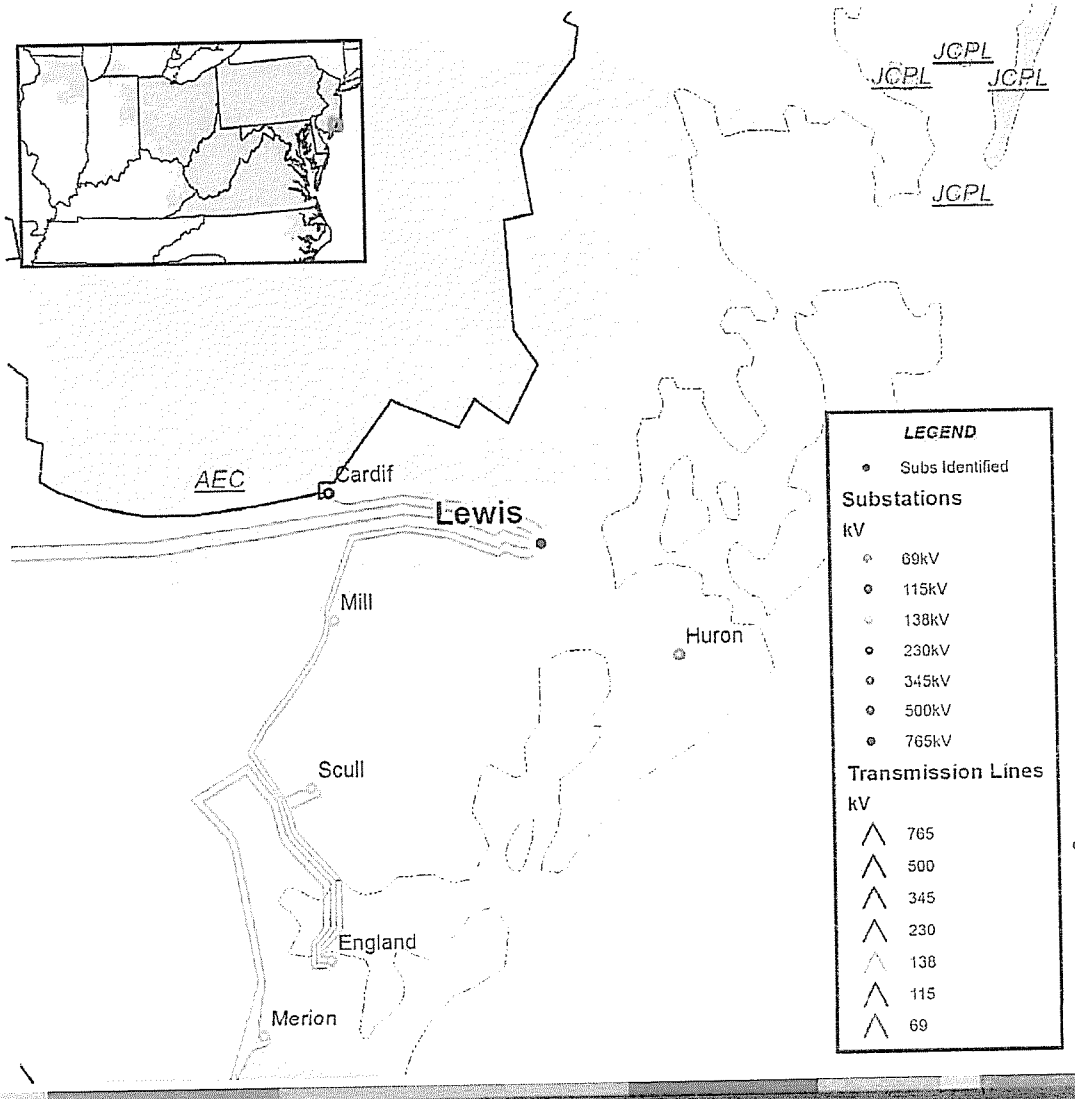
  6/1/2012



Short Circuit Baseline Upgrades

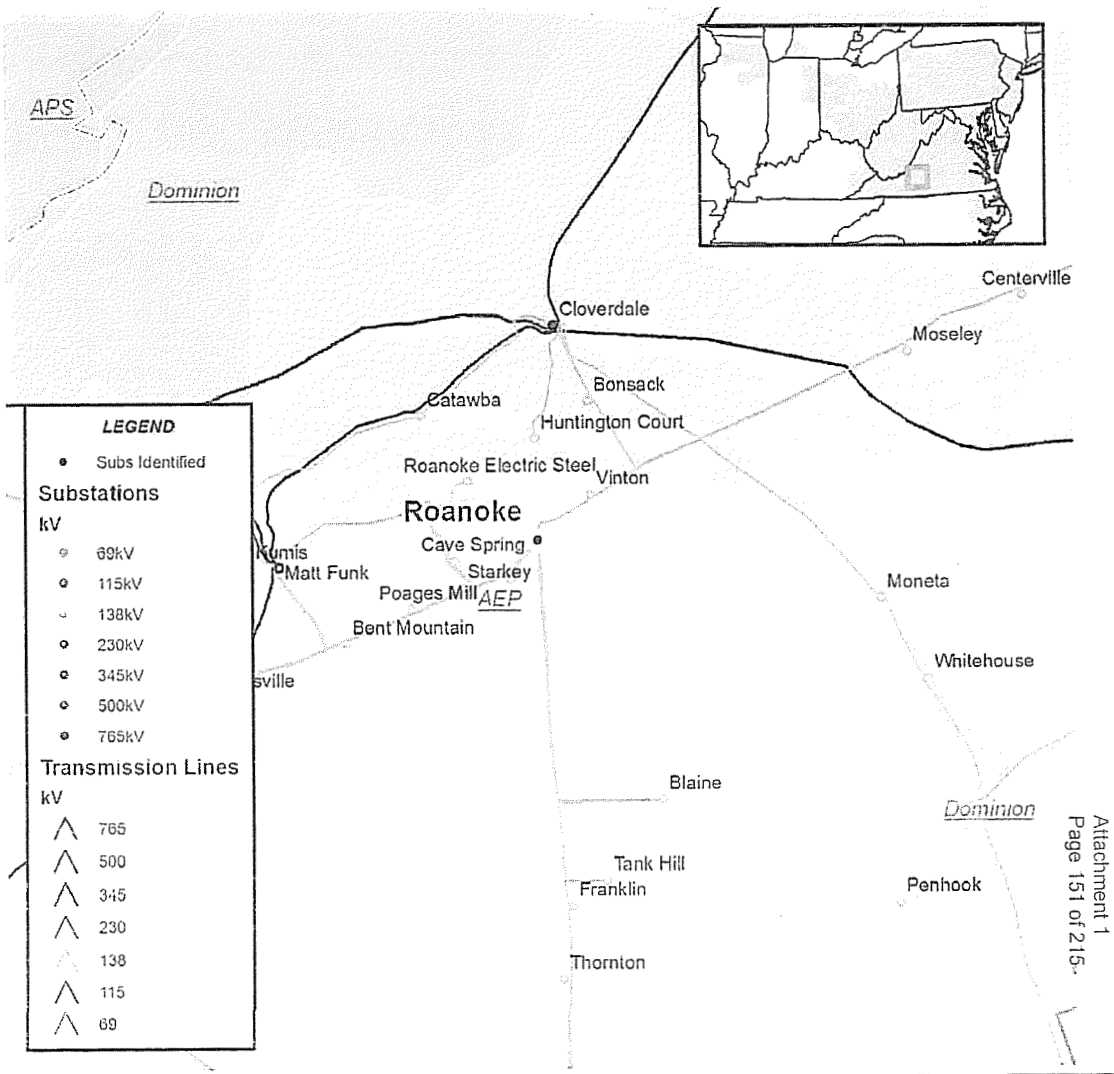
AE Transmission Zone

- The Lewis 138 kV breaker 'L' is overstressed
- Proposed Solution:
- Replace the Lewis 138 kV breaker 'L' (b1396)
- Estimated Project Cost: $400 K per breaker
- Expected IS Date: 6/1/2015



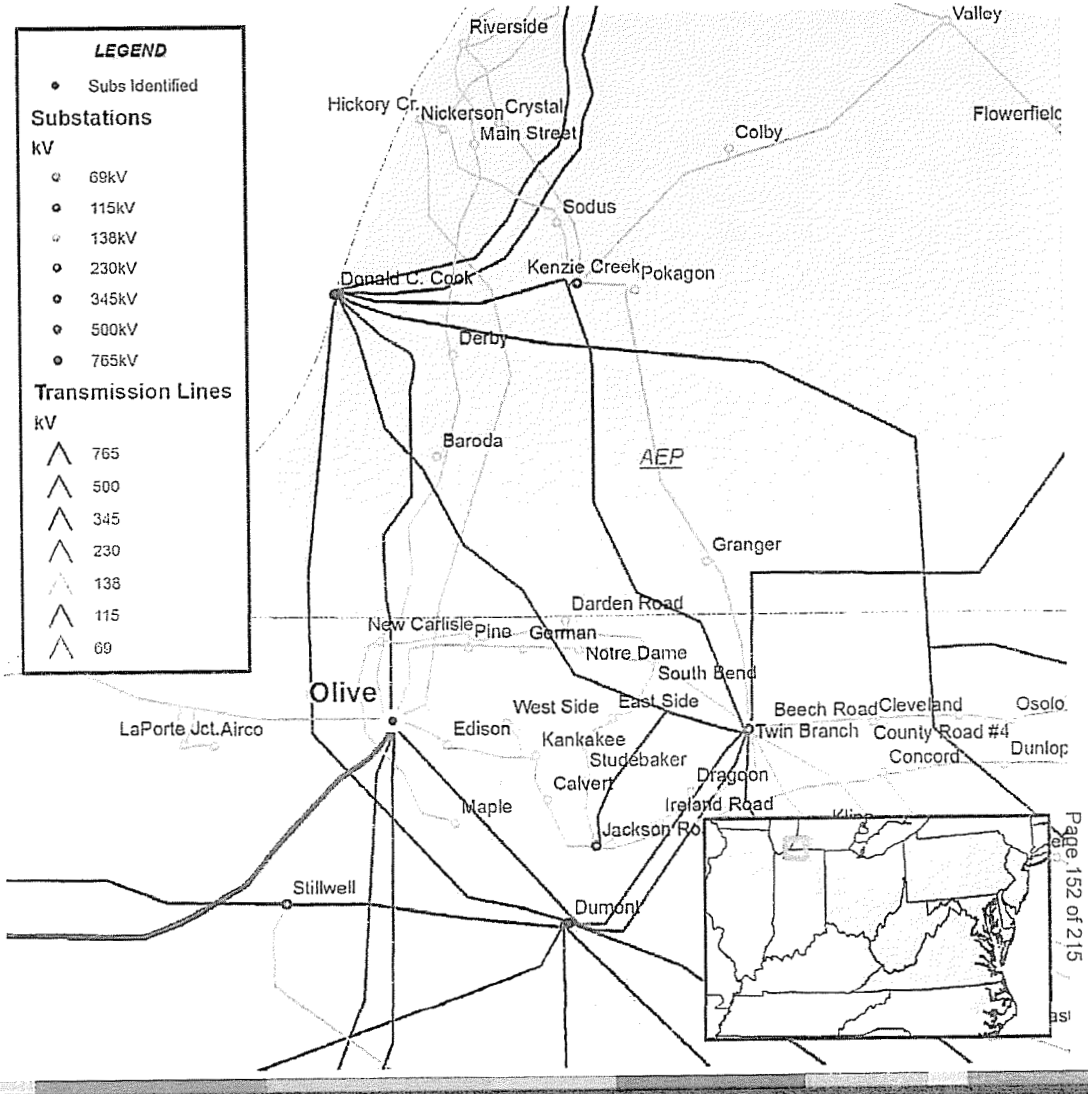
AEP Transmission Zone

- The following 6 circuit breakers are overstressed
- Roanoke 138 kV breakers 'T', 'E', 'F', 'G', 'B', 'A'
- Proposed Solution:
  - Replace the Roanoke 138 kV breaker 'T' (b1375)
  - Replace the Roanoke 138 kV breaker 'E' (b1376)
  - Replace the Roanoke 138 kV breaker 'F' (b1377)
  - Replace the Roanoke 138 kV breaker 'G' (b1378)
  - Replace the Roanoke 138 kV breaker 'B' (b1379)
  - Replace the Roanoke 138 kV breaker 'A' (b1380)
- Estimated Project Cost: $800 K per breaker
- Expected IS Date: 6/1/2011



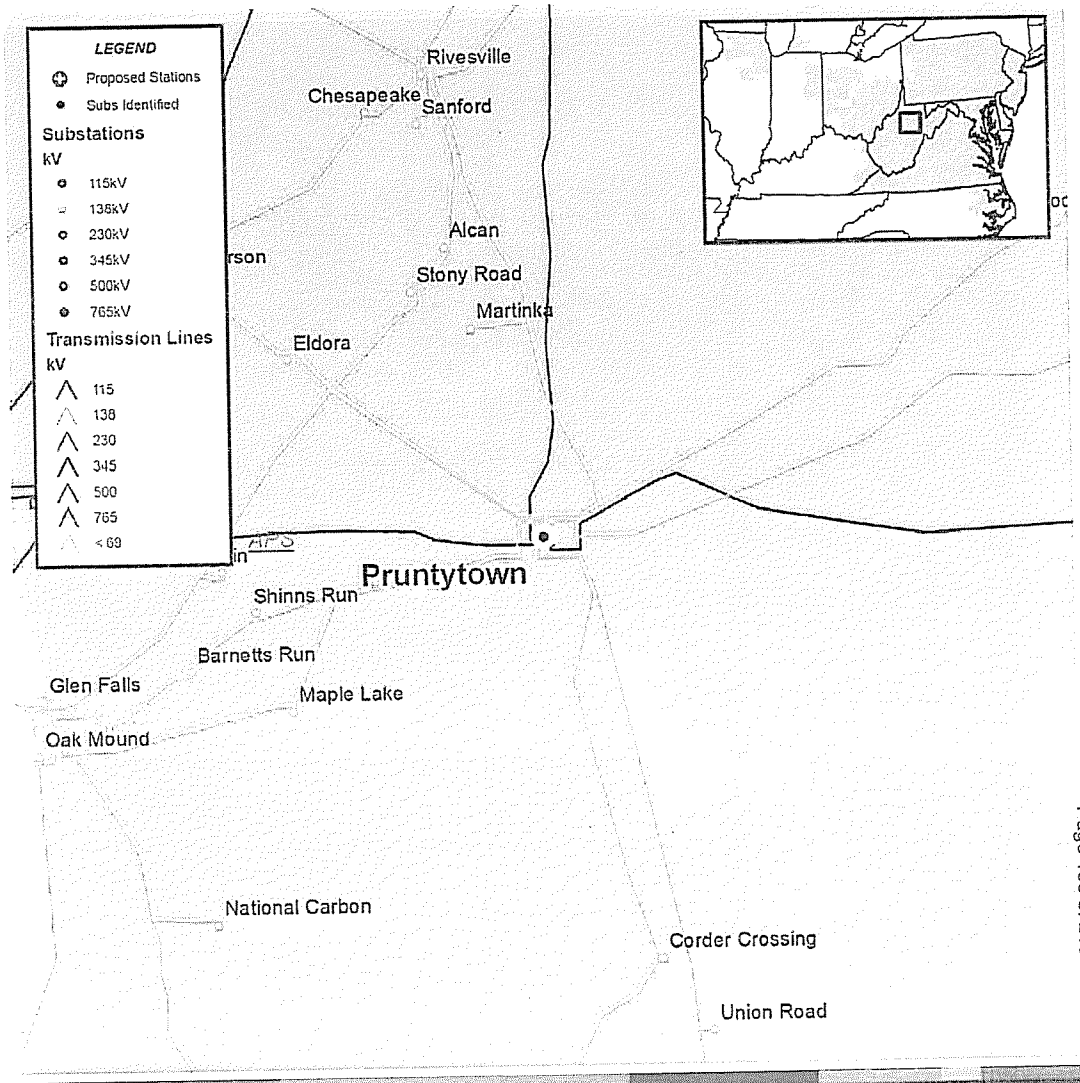
AEP Transmission Zone

- The following 2 circuit breakers are overstressed
  - Olive 345 kV breaker 'E'
  - Olive 138 kV breaker 'R2'
- Proposed Solution:
  - Replace the Olive 345 kV breaker 'E' (b1381)
  - Replace the Olive 138 kV breaker 'R2' (b1382)
- Estimated Project Cost: $1.0 M per breaker
- Expected IS Date: 6/1/2011



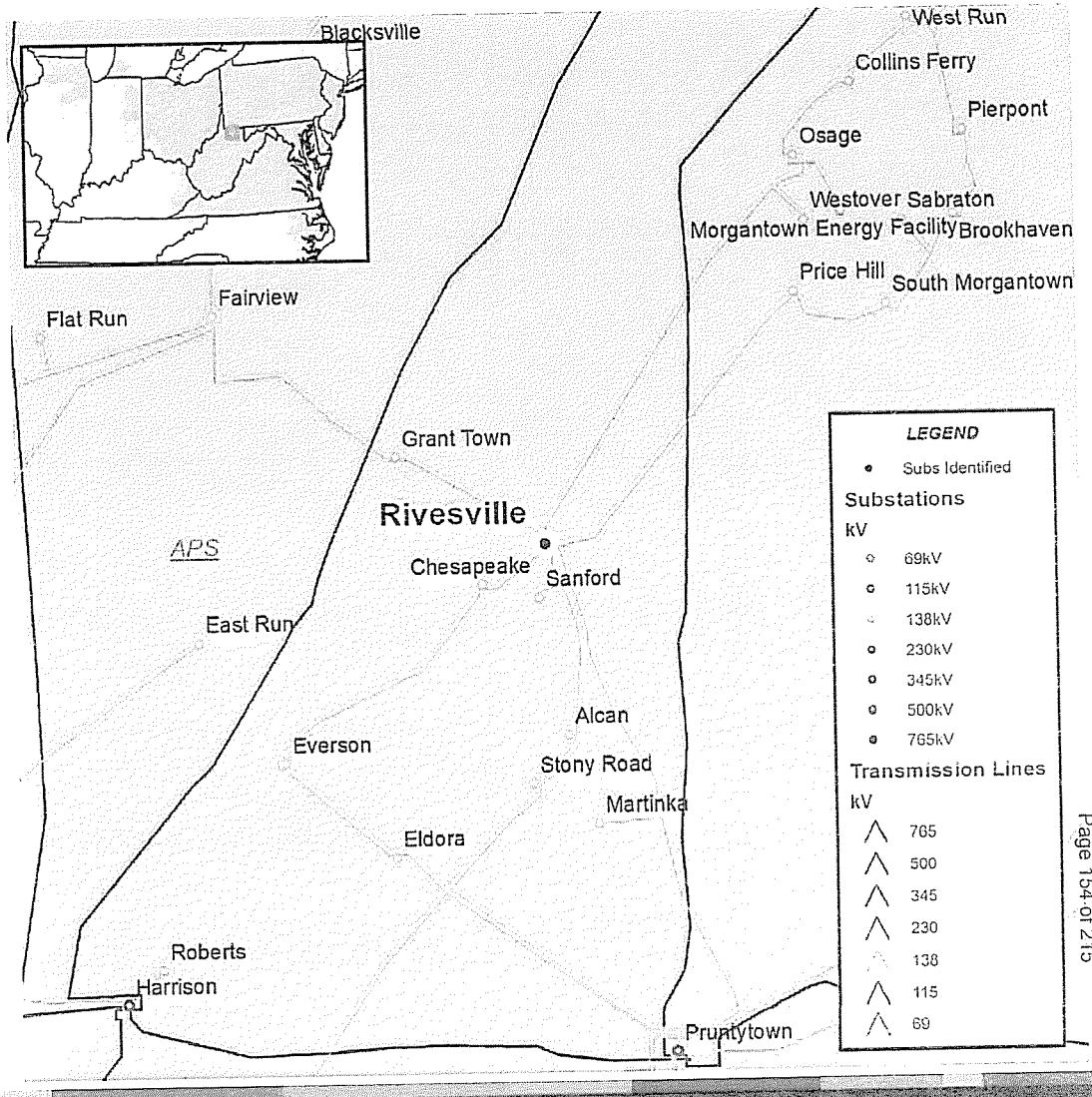
AP Transmission Zone

- The Pruntytown 138 kV breaker 'P-16' is overstressed
- Proposed Solution:
- Change the reclosing on the Pruntytown 138 kV breaker 'P-16' to 1 shot at 15 seconds (b1401)
- Estimated Project Cost: $2 K
- Expected IS Date: 6/1/2011



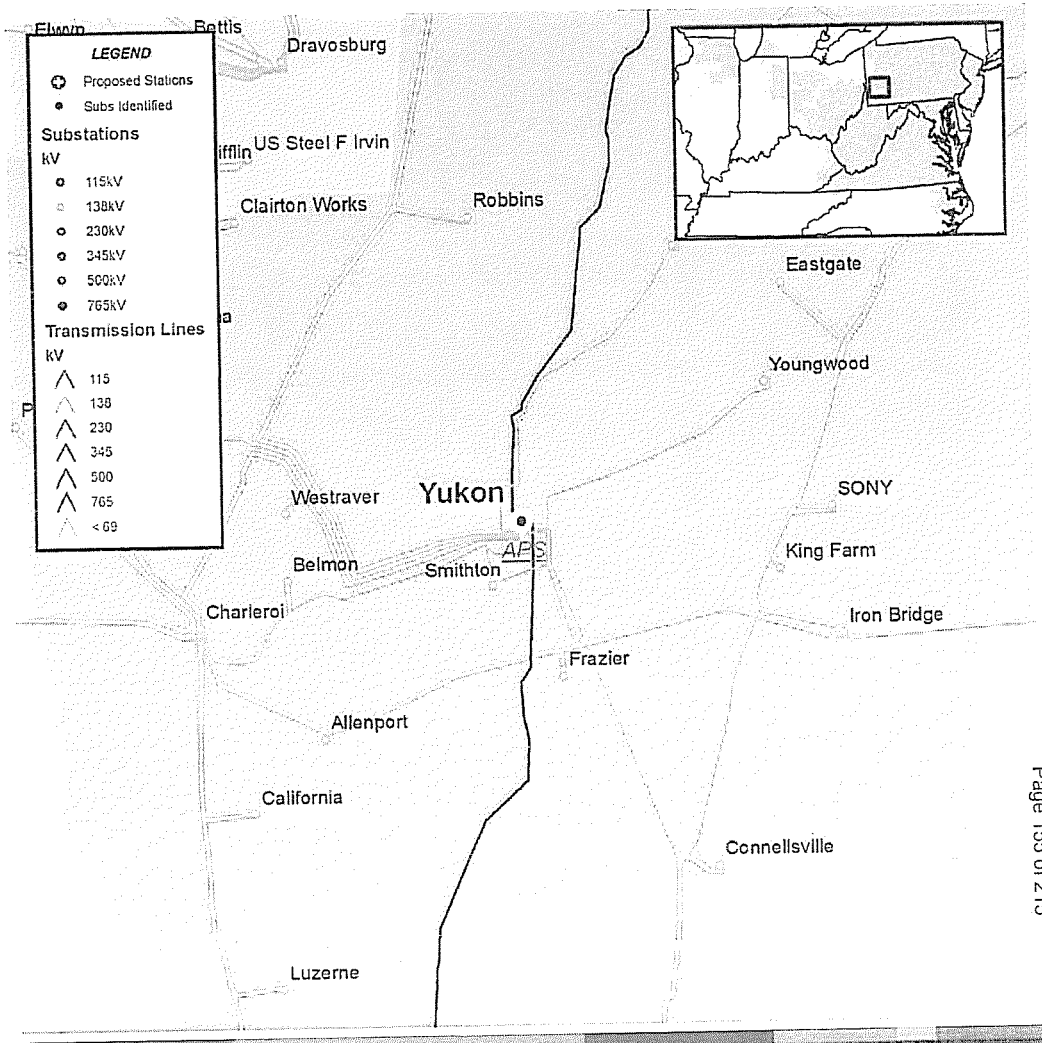
AP Transmission Zone

- The Rivesville 138 kV breaker 'Pruntytown #34' is overstressed
- Proposed Solution:
- Change the reclosing on the Rivesville 138 kV breaker 'Pruntytown #34' to 1 shot at 15 seconds (b1402)
- Estimated Project Cost: $2 K
- Expected IS Date: 6/1/2011



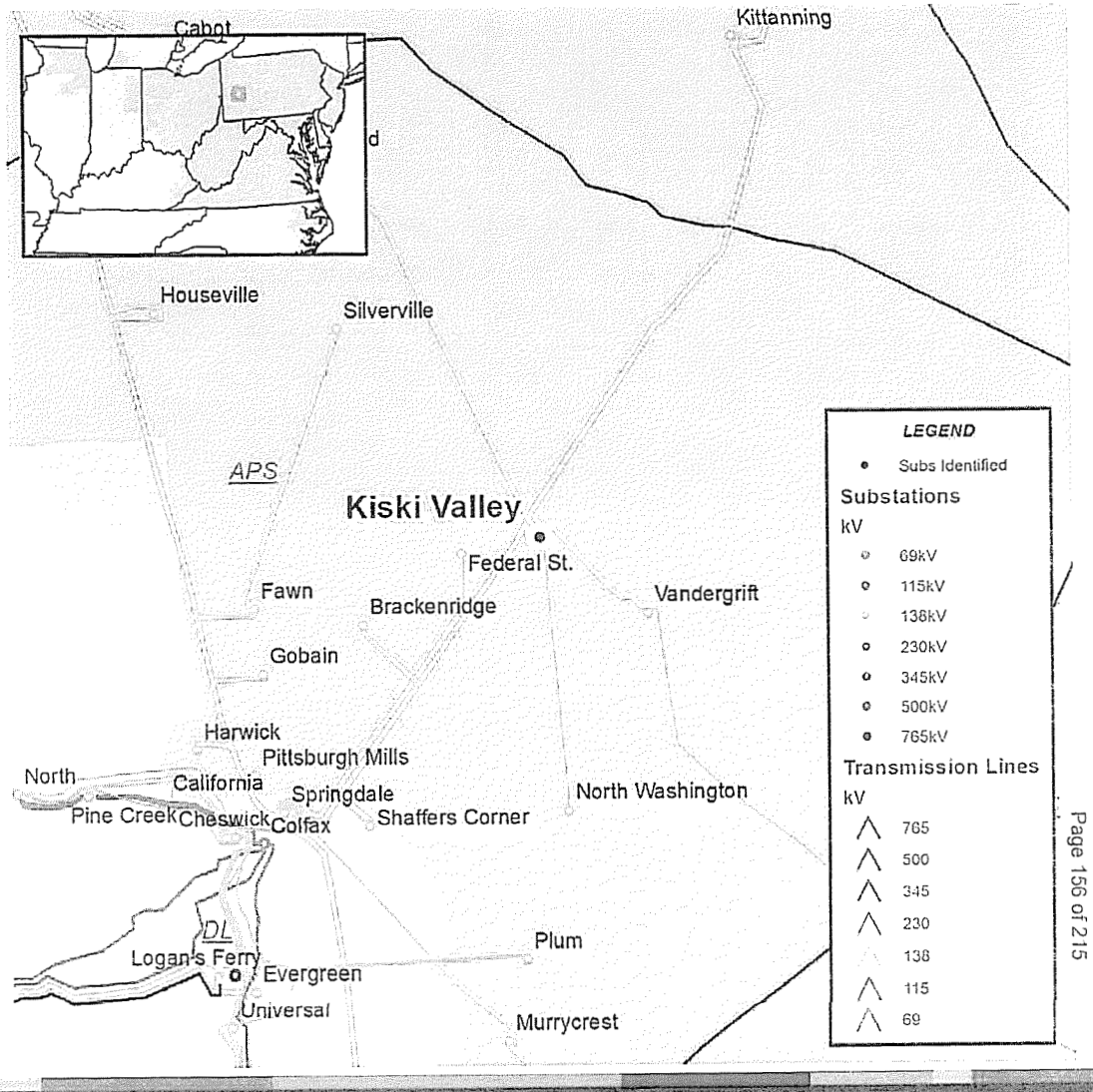
AP Transmission Zone

- The Yukon 138 kV breaker 'Y21 Shepler' is overstressed
- Proposed Solution:
- Change the reclosing on the Yukon 138 kV breaker 'Y21 Shepler' to 1 shot at 15 seconds (b1403)
- Estimated Project Cost: $2 K
- Expected IS Date: 6/1/2011



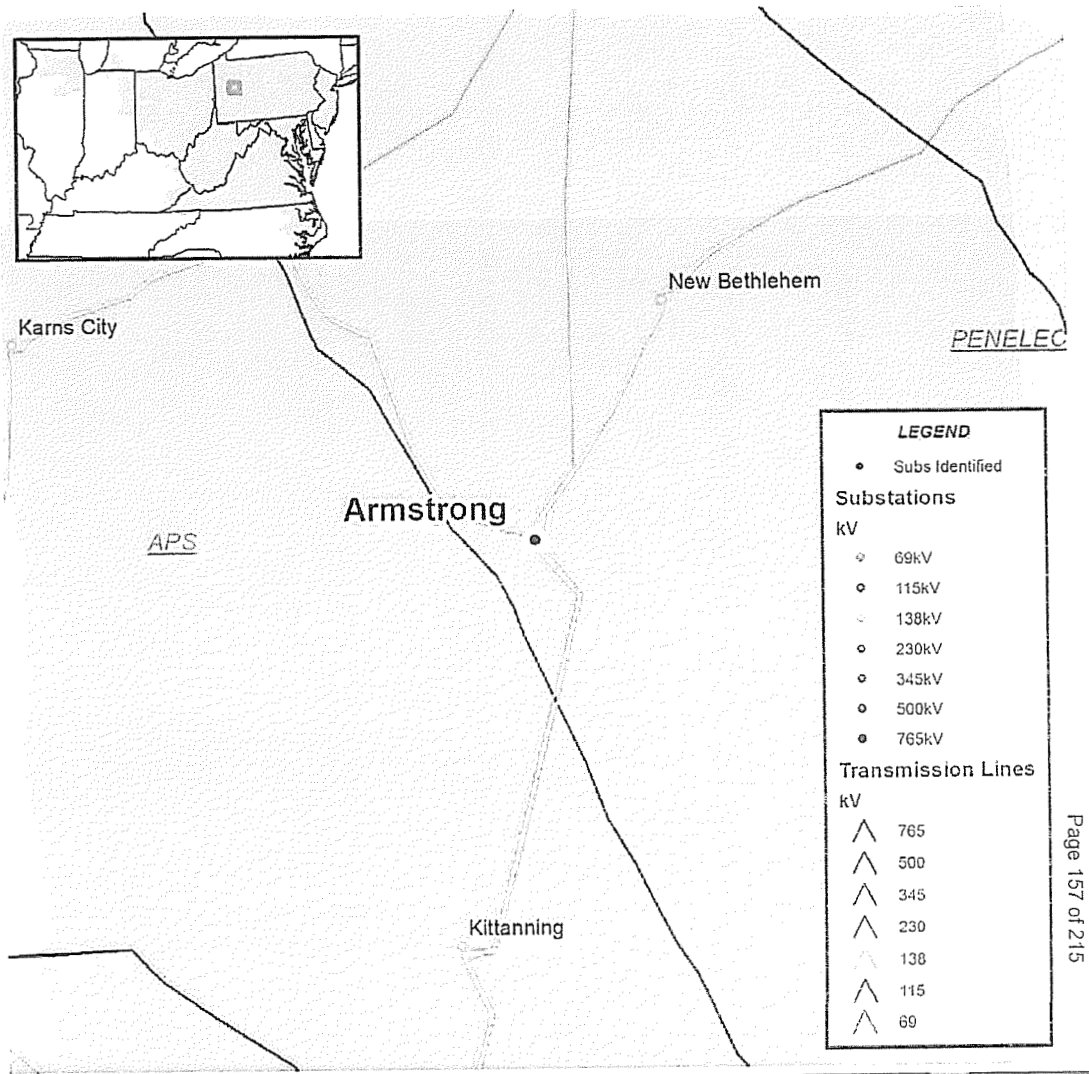
AP Transmission Zone

- The Kiski Valley 138 kV breaker 'Vandergrift' is overstressed
- Proposed Solution:
- Replace the Kiski Valley 138 kV breaker 'Vandergrift' with a 40 kA breaker (b1404)
- Estimated Project Cost: $250 K
- Expected IS Date: 6/1/2015



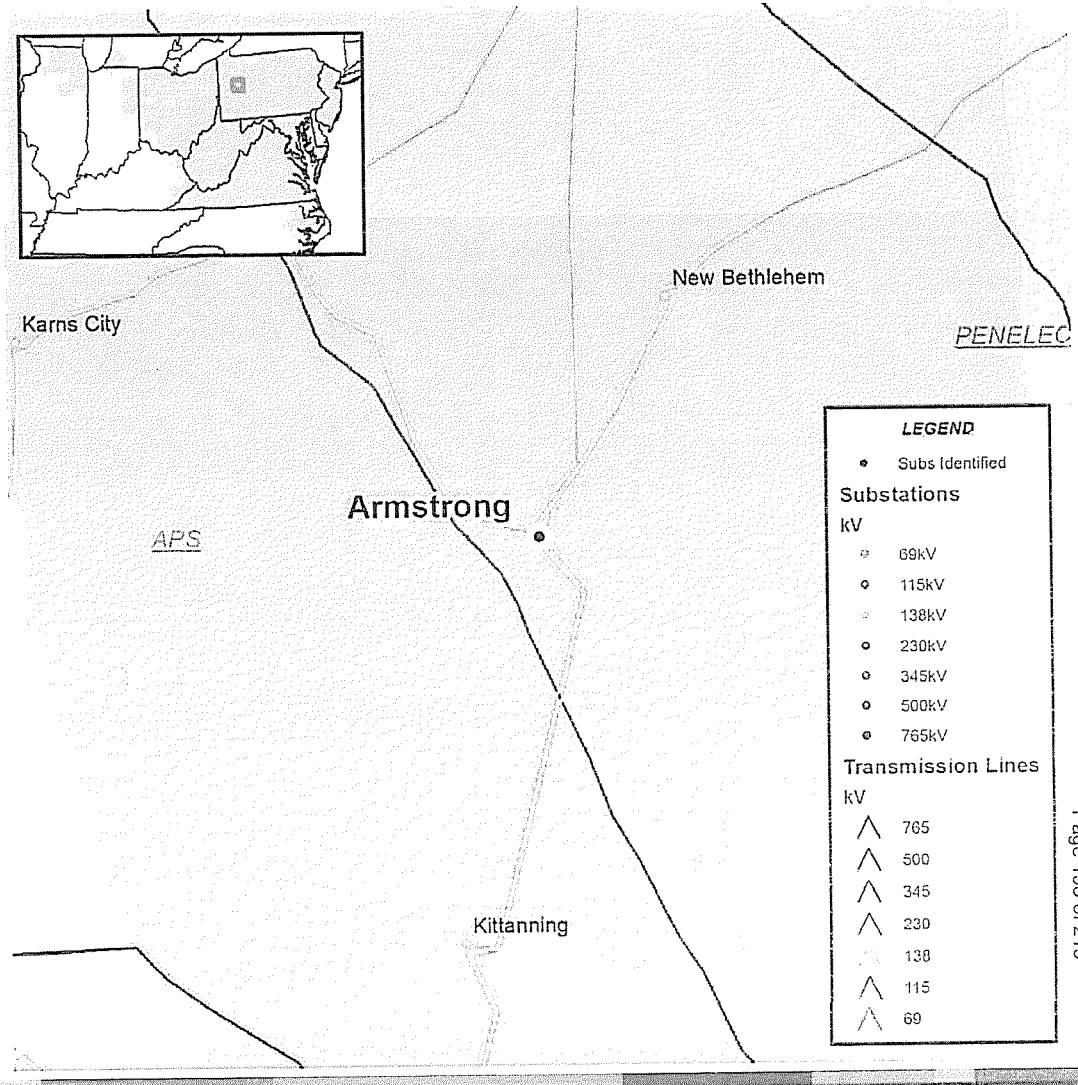
AP Transmission Zone

- The Armstrong 138 kV breaker 'GARETTRJCT' is overstressed
- Proposed Solution:
- Change the reclosing on the Armstrong 138 kV breaker 'GARETTRJCT' to 1 shot at 15 seconds (b1405)
- Estimated Project Cost: $2 K
- Expected IS Date: 6/1/2015



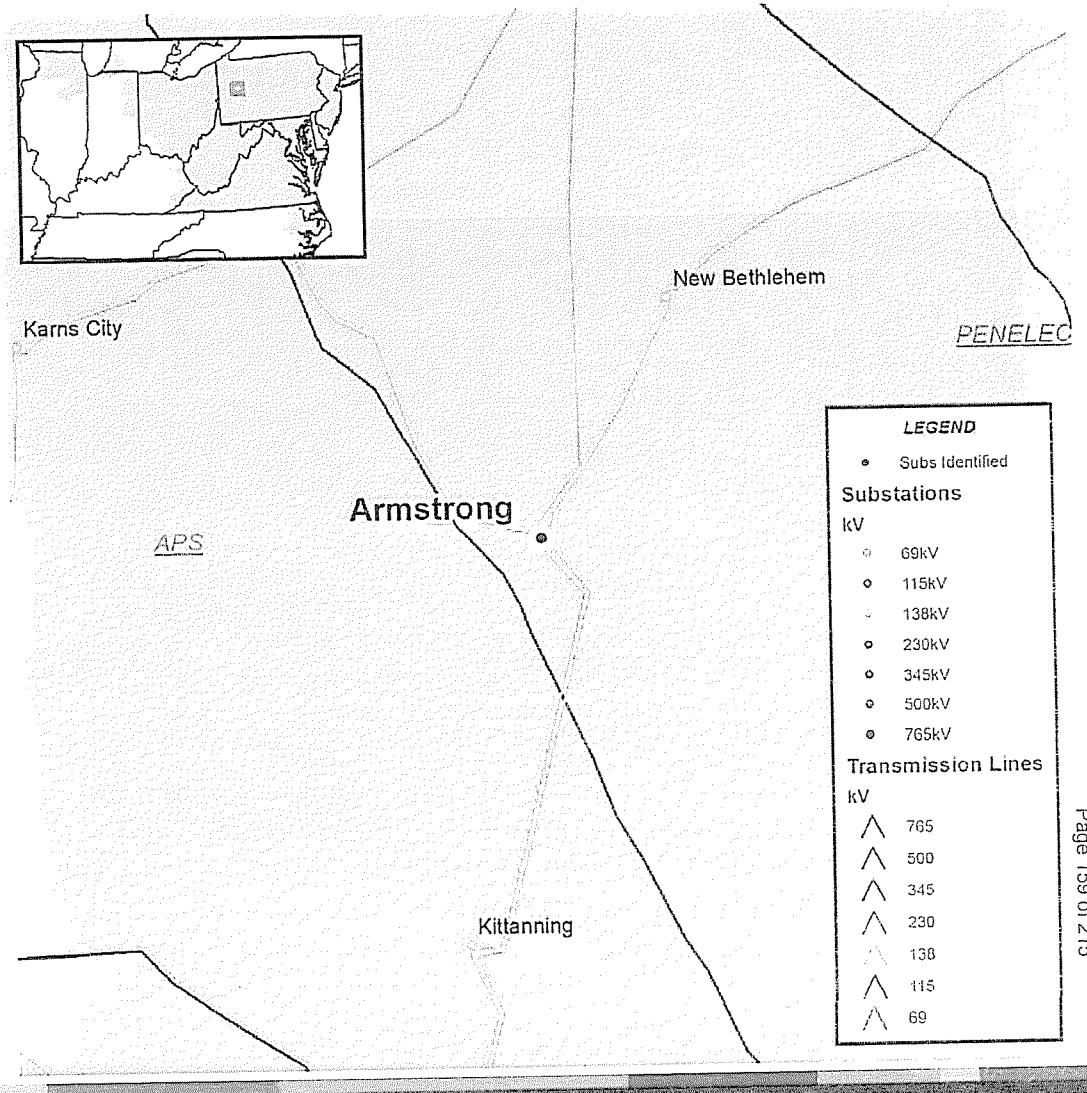
AP Transmission Zone

- The Armstrong 138 kV breaker 'KITTANNING' is overstressed
- Proposed Solution:
- Change the reclosing on the Armstrong 138 kV breaker 'KITTANNING' to 1 shot at 15 seconds (b1406)
- Estimated Project Cost: $2 K
- Expected IS Date: 6/1/2015



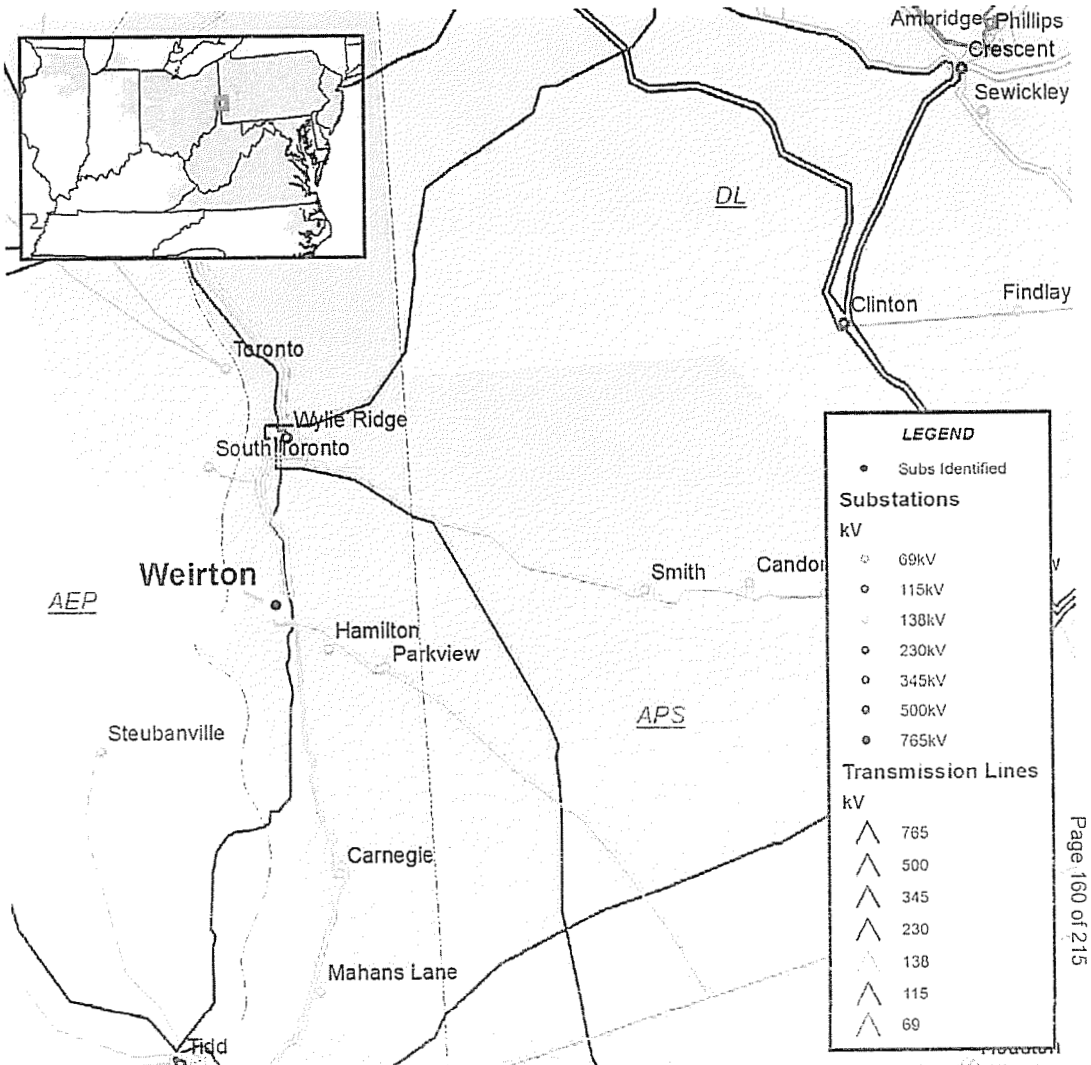
AP Transmission Zone

- The Armstrong 138 kV breaker 'BURMA' is overstressed
- Proposed Solution:
- Change the reclosing on the Armstrong 138 kV breaker 'BURMA' to 1 shot at 15 seconds (b1407)
- Estimated Project Cost:
  - $2 K
- Expected IS Date: 6/1/2015



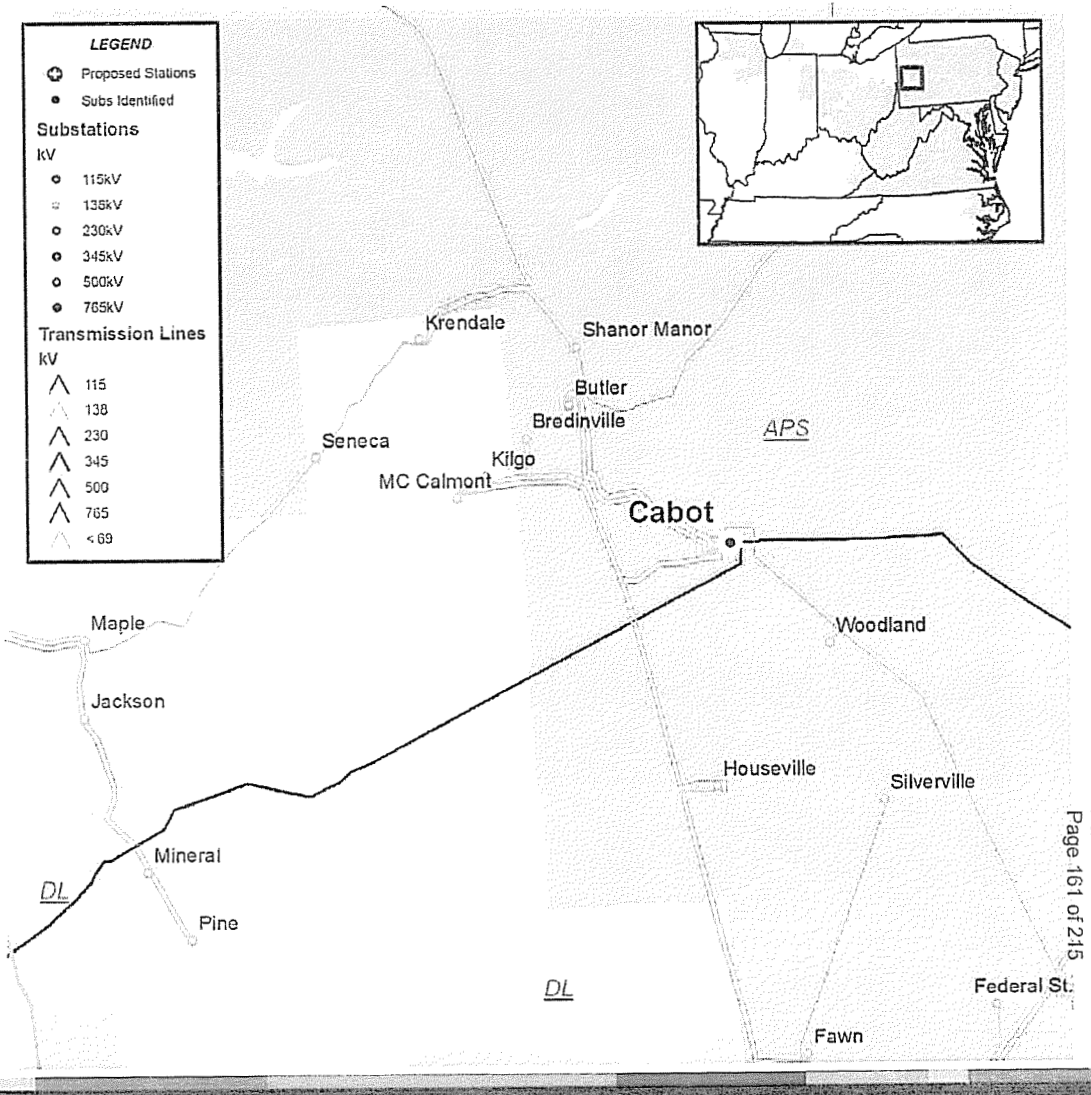
AP Transmission Zone

- The Weirton 138 kV breaker 'Tidd 224' is overstressed
- Proposed Solution:
- Replace the Weirton 138 kV breaker 'Tidd 224' with a 40 kA breaker (b1408)
- Estimated Project Cost: $250 K
- Expected IS Date: 6/1/2015



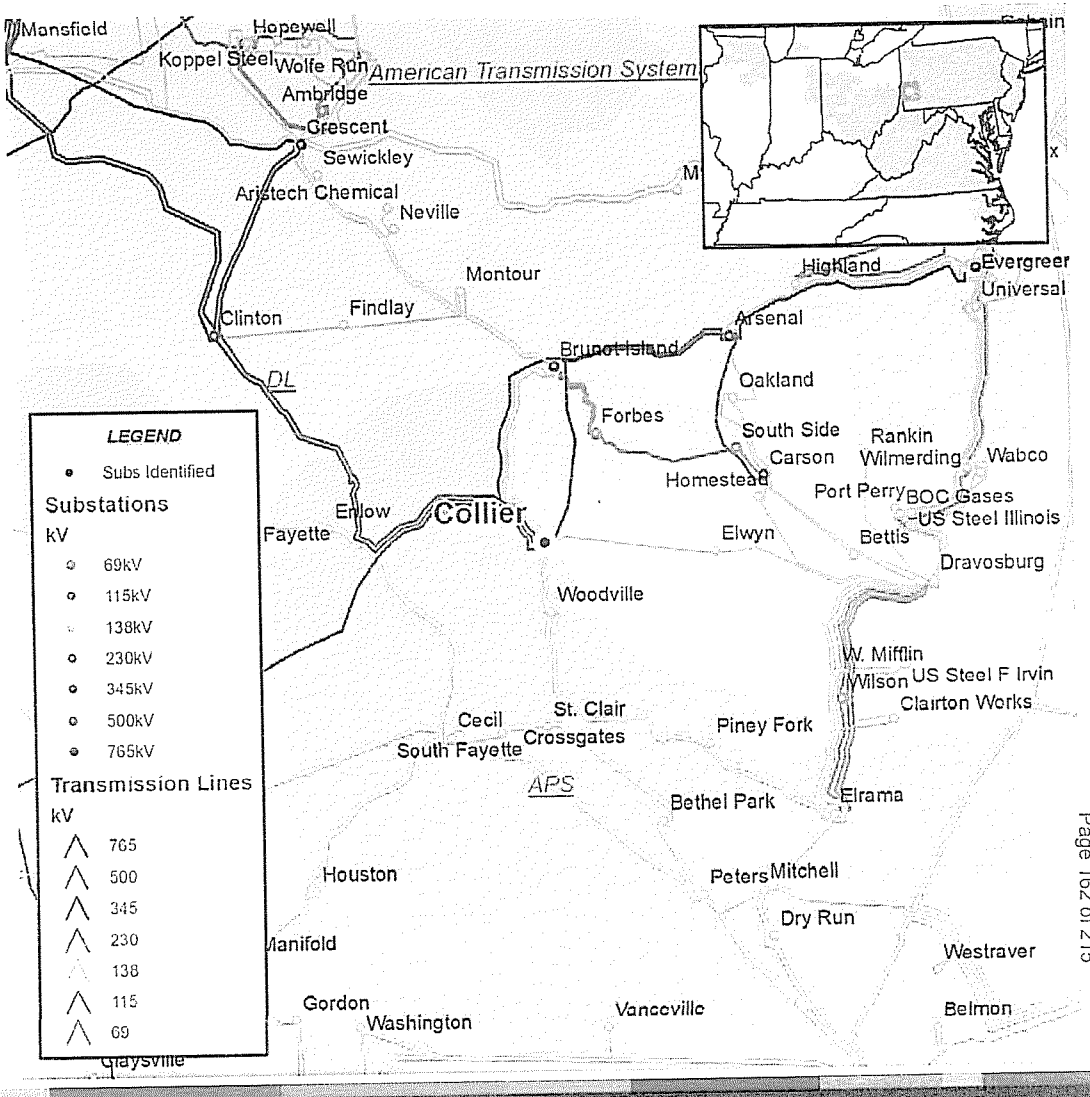
AP Transmission Zone

- The Cabot 138 kV breaker 'C9 Kiski Valley' is overstressed
- Proposed Solution:
- Replace the Cabot 138 kV breaker 'C9 Kiski Valley' with a 63 kA breaker (b1409)
- Estimated Project Cost: $300 K
- Expected IS Date: 6/1/2015



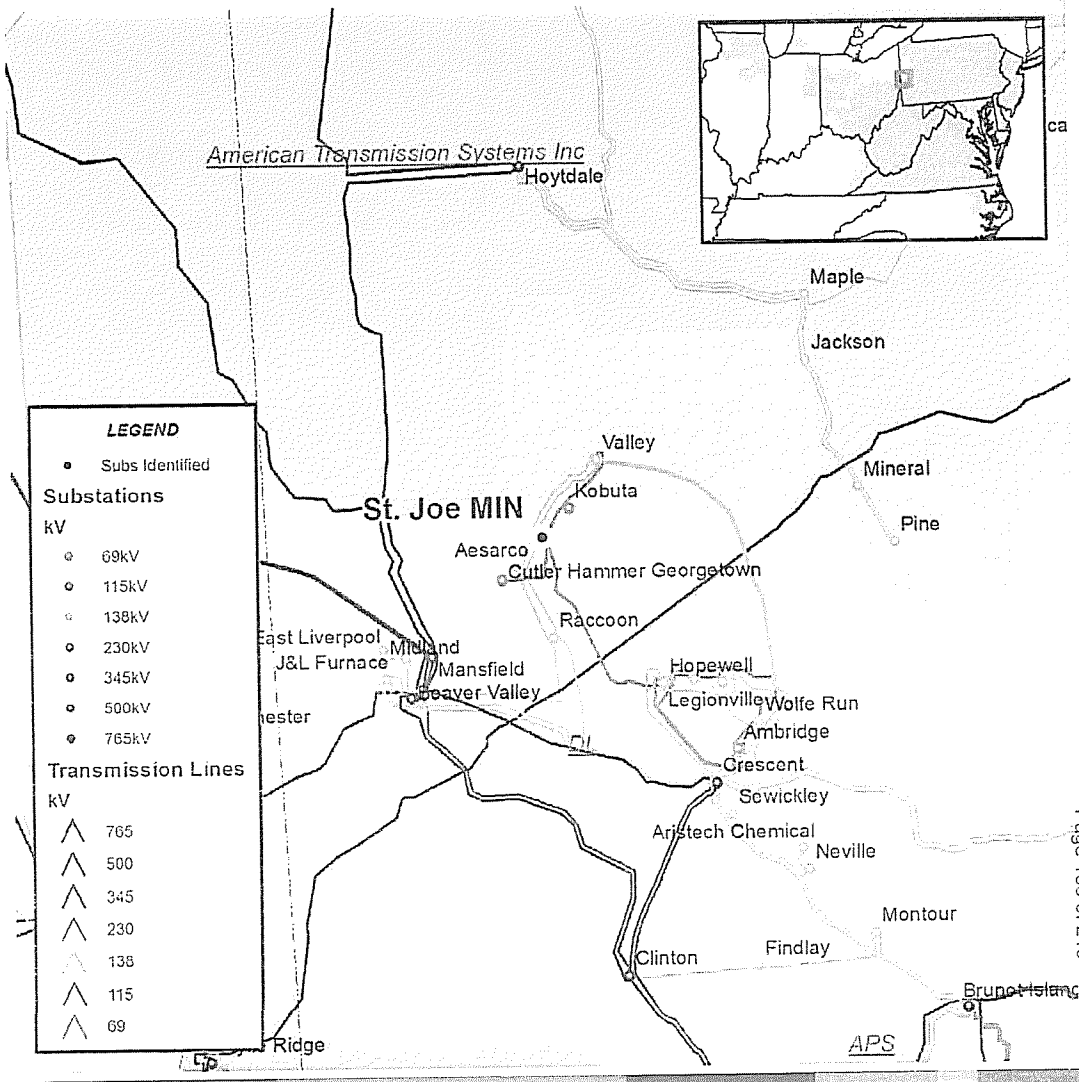
DLCO Transmission Zone

- The Collier 138 kV breaker '2-3 Bus Tie' is overstressed
- Proposed Solution:
- Replace the Collier 138 kV breaker '2-3 Bus Tie' (b1343)
- Estimated Project Cost: $360 K
- Expected IS Date: 6/1/2015



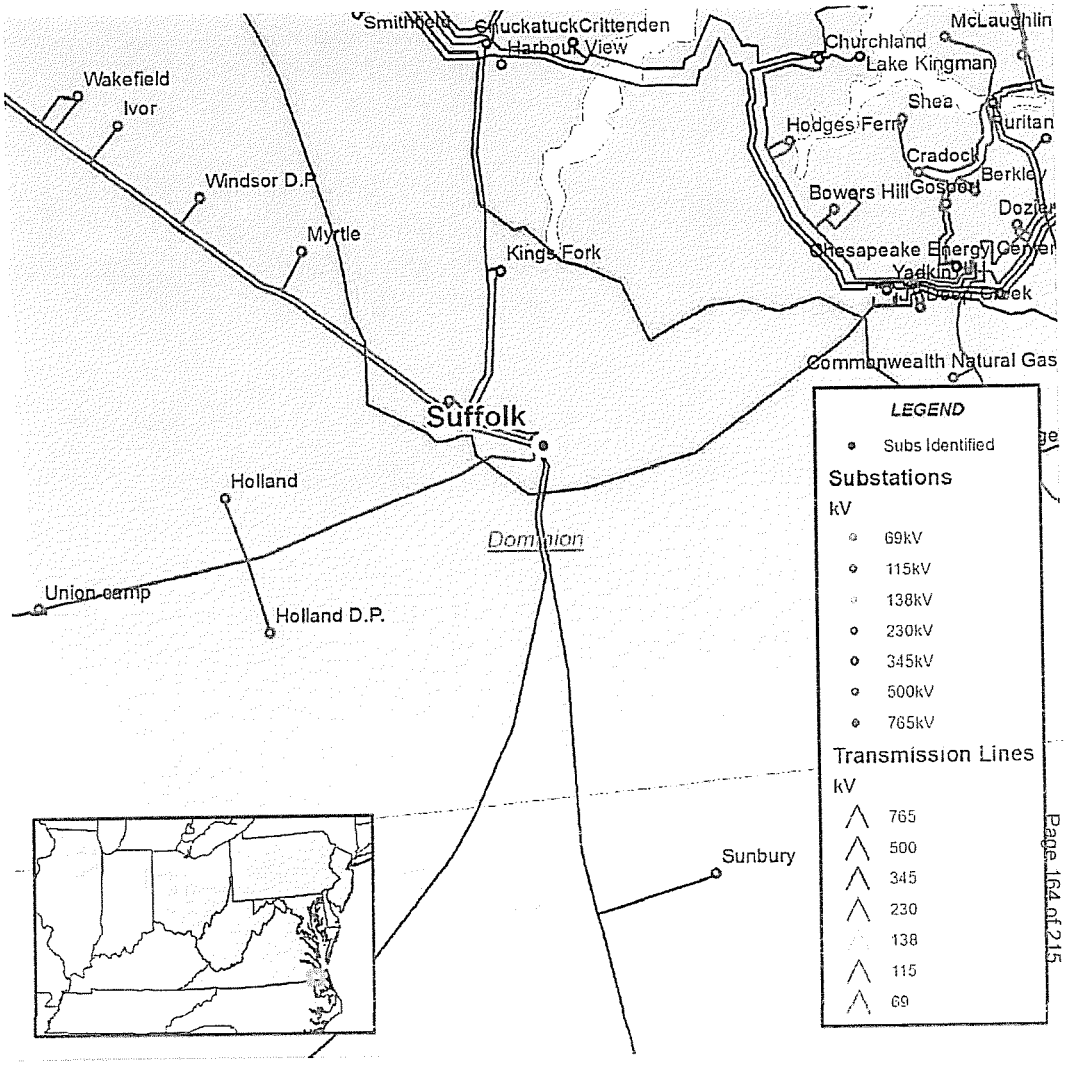
DLCO Transmission Zone

- The St Joe Resources 138 kV breaker 'Z-81 Valley' is overstressed
- Proposed Solution:
- Replace the St Joe Resources 138 kV breaker 'Z-81 Valley' (b1344)
- Estimated Project Cost: $360 K
- Expected IS Date: 6/1/2015



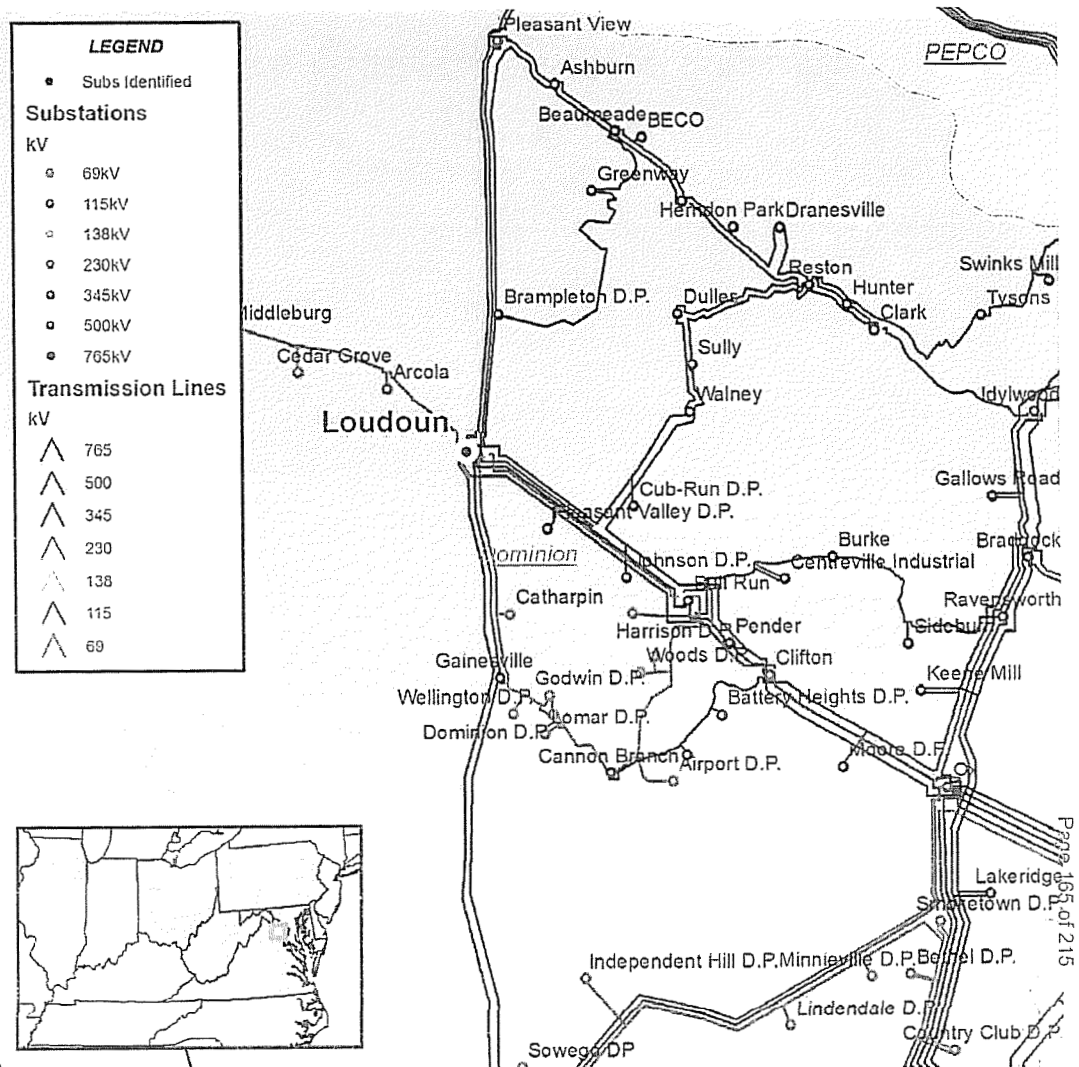
Dominion Transmission Zone

- Suffolk 115 kV breaker 'T122' is overstressed
- Driver: Add a third 230/115 kV transformer at Suffolk (b1058)
- Proposed Solution: Replace the Suffolk 115 kV breaker 'T122' with a breaker rated 40 kA (b1058.1)
- Estimated Project Cost:
  $170 K
- Expected IS Date: 6/1/2014



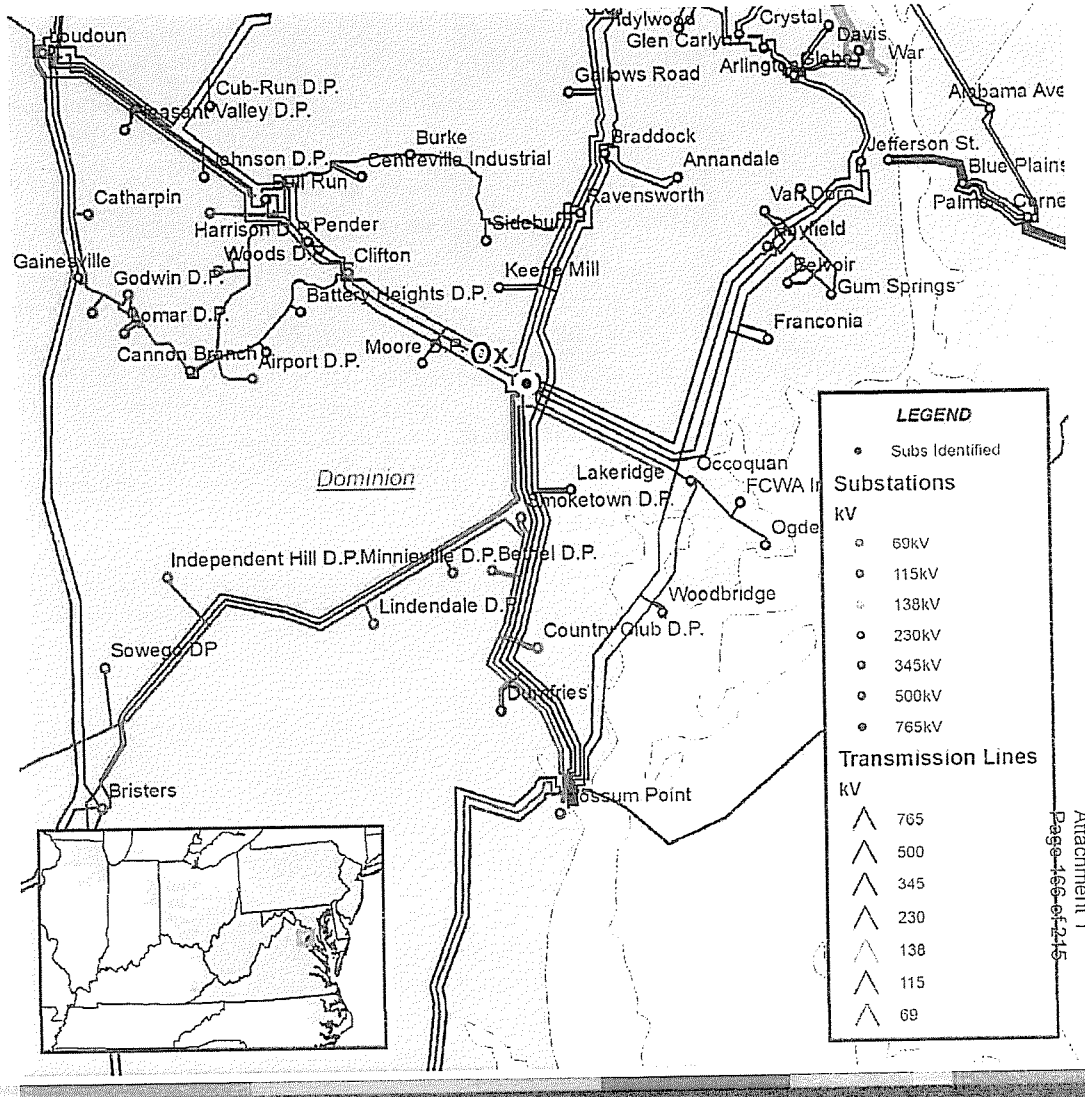
Dominion Transmission Zone

- The following breakers are overstressed:
  - Loudoun 230 kV breaker '200852'
  - Loudoun 230 kV breaker '2008T2094'
  - Loudoun 230 kV breaker '204552'
  - Loudoun 230 kV breaker '209452'
  - Loudoun 230 kV breaker 'WT2045'
- Driver: New Brambleton 500/230 kV substation (b1188)
- Proposed Solution: Replace the following breakers with 63 kA breakers
  - Loudoun 230 kV breaker '200852' (b1188.1)
  - Loudoun 230 kV breaker '2008T2094' (b1188.2)
  - Loudoun 230 kV breaker '204552' (b1188.3)
  - Loudoun 230 kV breaker '209452' (b1188.4)
  - Loudoun 230 kV breaker 'WT2045' (b1188.5)
- Estimated Project Cost: $215 K per breaker
- Expected IS Date: 6/1/2014



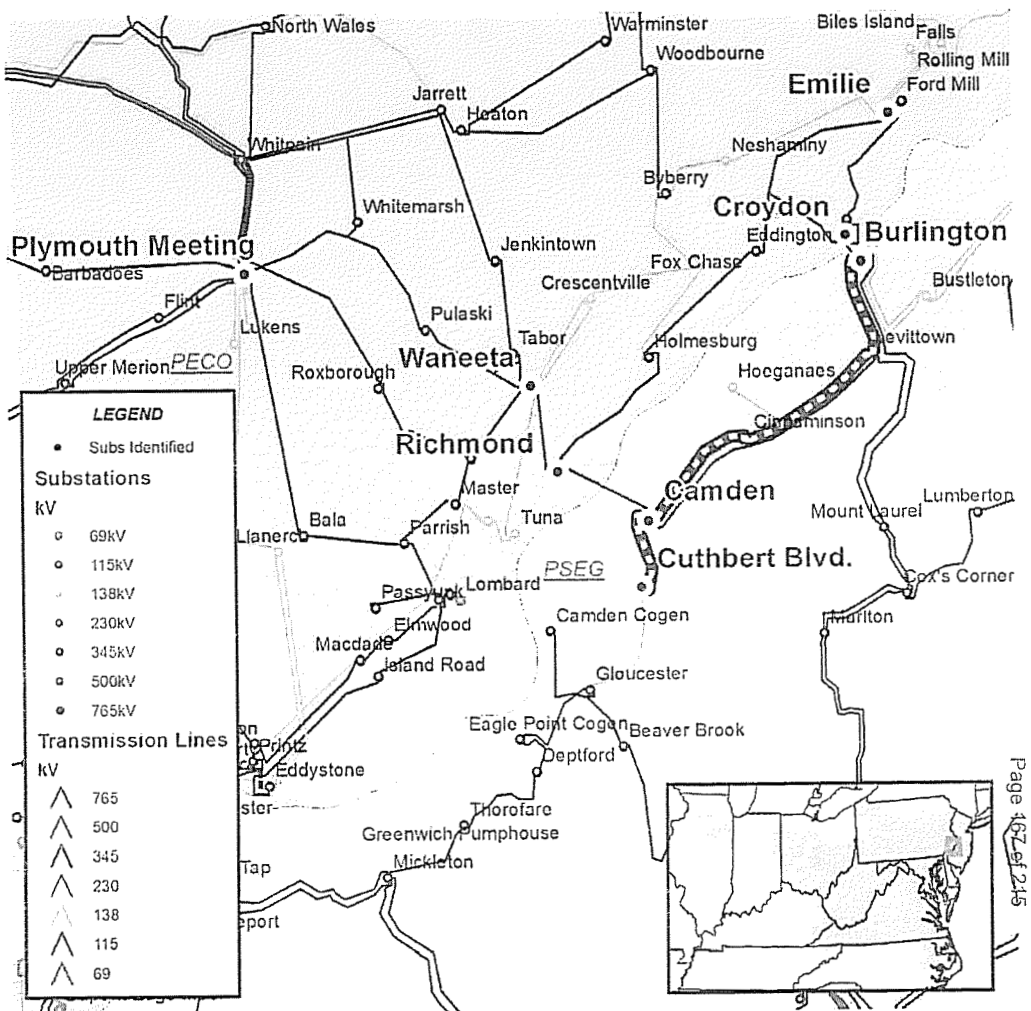
Dominion Transmission Zone

- The following breakers have been previously identified as overstressed due to the V1-031 queue project:
  - Ox 230 kV breaker '22042' (n1748)
  - Ox 230 kV breaker '220T2063' (n1749)
  - Ox 230 kV breaker '24842' (n1750)
  - Ox 230 kV breaker '248T2013' (n1751)
  - Possum Point 230 kV breaker 'H9T237' (n1728)
- The expected in-service date for V1-031 is 2016
- These same 5 breakers have been identified as being overstressed for 2015 baseline conditions
- Proposed Solution: Advance the V1-031 network upgrades from 2016 to 2015
  - Advance n1728 (b1333)
  - Advance n1748 (b1334)
  - Advance n1749 (b1335)
  - Advance n1750 (b1336)
  - Advance n1751 (b1337)
- Estimated Advancement Cost: $25 K per breaker
- Expected IS Date: 6/1/2015



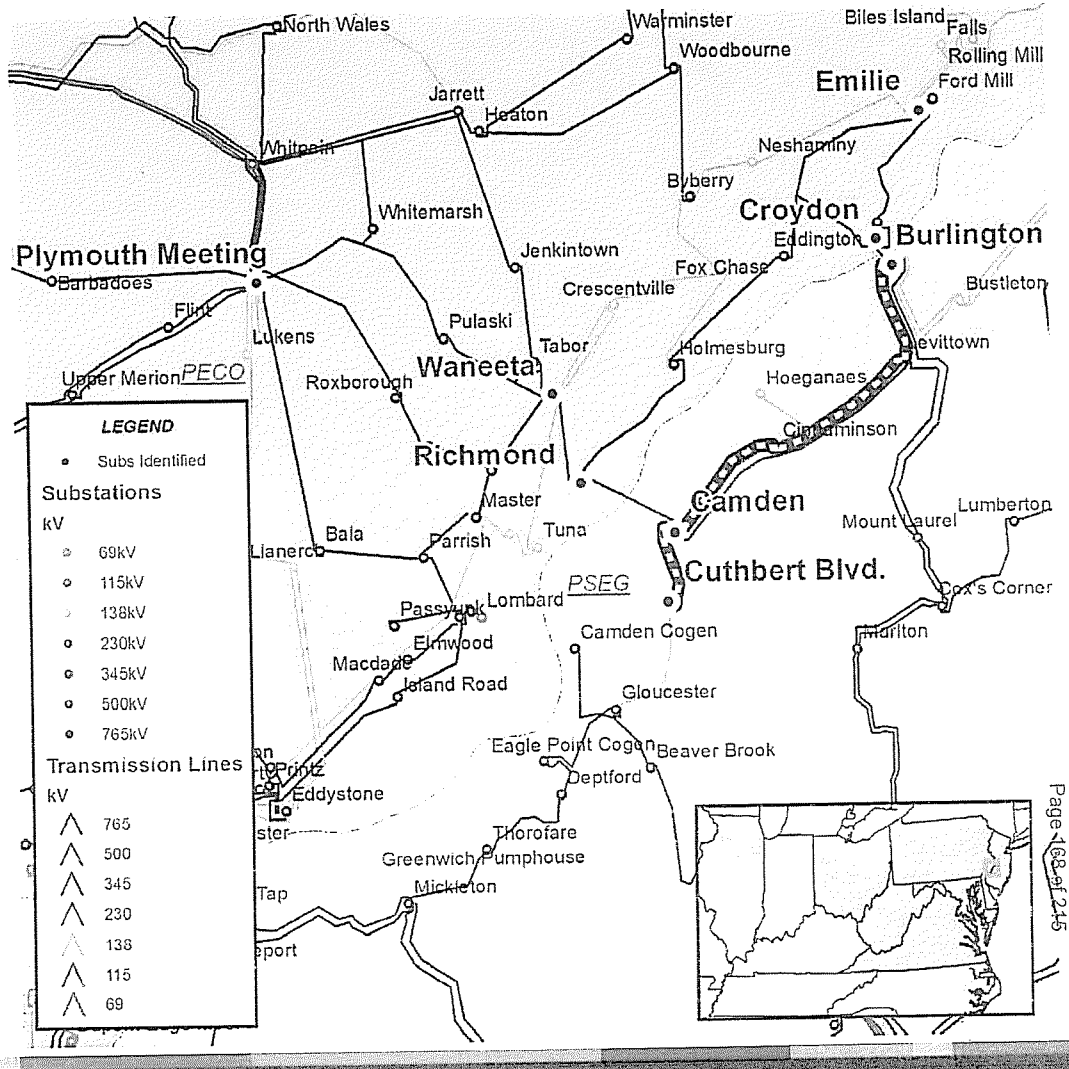
PECO Transmission Zone

- The following circuit breakers are overstressed due to baseline project b1156 (convert the Burlington – Camden - Cuthbert Blvd 138 kV line and substations to 230 kV)
  - Richmond 230 kV breaker '525'
  - Richmond 230 kV breaker '415'
  - Richmond 230 kV breaker '475'
  - Richmond 230 kV breaker '575'
  - Richmond 230 kV breaker '185'
  - Richmond 230 kV breaker '285'
  - Waneeta 230 kV breaker '85'
  - Waneeta 230 kV breaker '425'
  - Emilie 230 kV breaker '815'
  - Plymouth Meeting 230 kV breaker '265'
  - Croydon 230 kV breaker '115'
- Continued on next slide



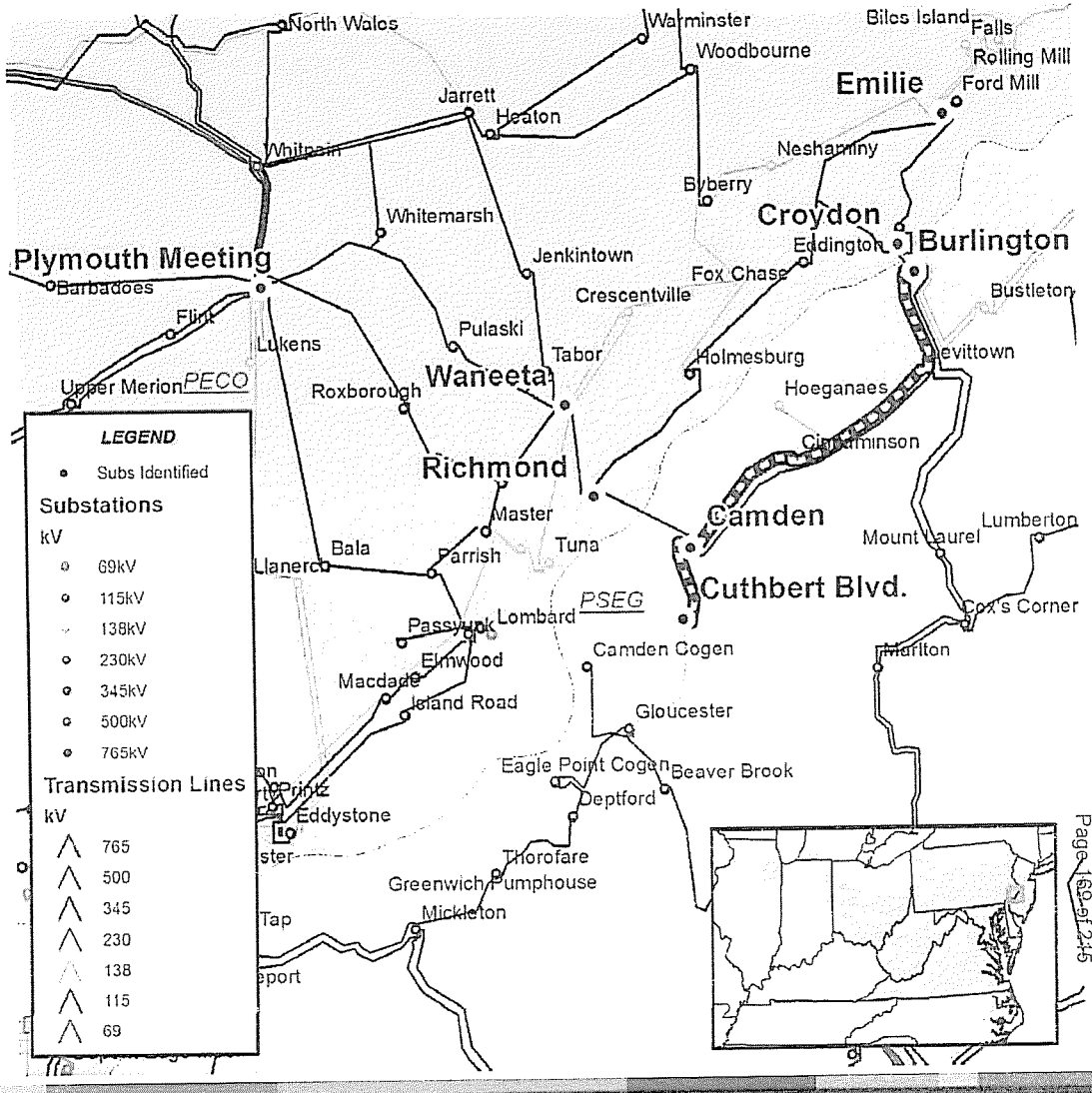
PECO Transmission Zone

- Continued from previous slide
- Proposed Solution: Upgrade the following overstressed circuit breakers
  - Richmond 230 kV breaker '525' (b1156.1)
  - Richmond 230 kV breaker '415' (b1156.2)
  - Richmond 230 kV breaker '475' (b1156.3)
  - Richmond 230 kV breaker '575' (b1156.4)
  - Richmond 230 kV breaker '185' (b1156.5)
  - Richmond 230 kV breaker '285' (b1156.6)
  - Waneeta 230 kV breaker '85' (b1156.7)
- Estimated Project Cost: $100 K per breaker
- Expected IS Date: 6/1/2014



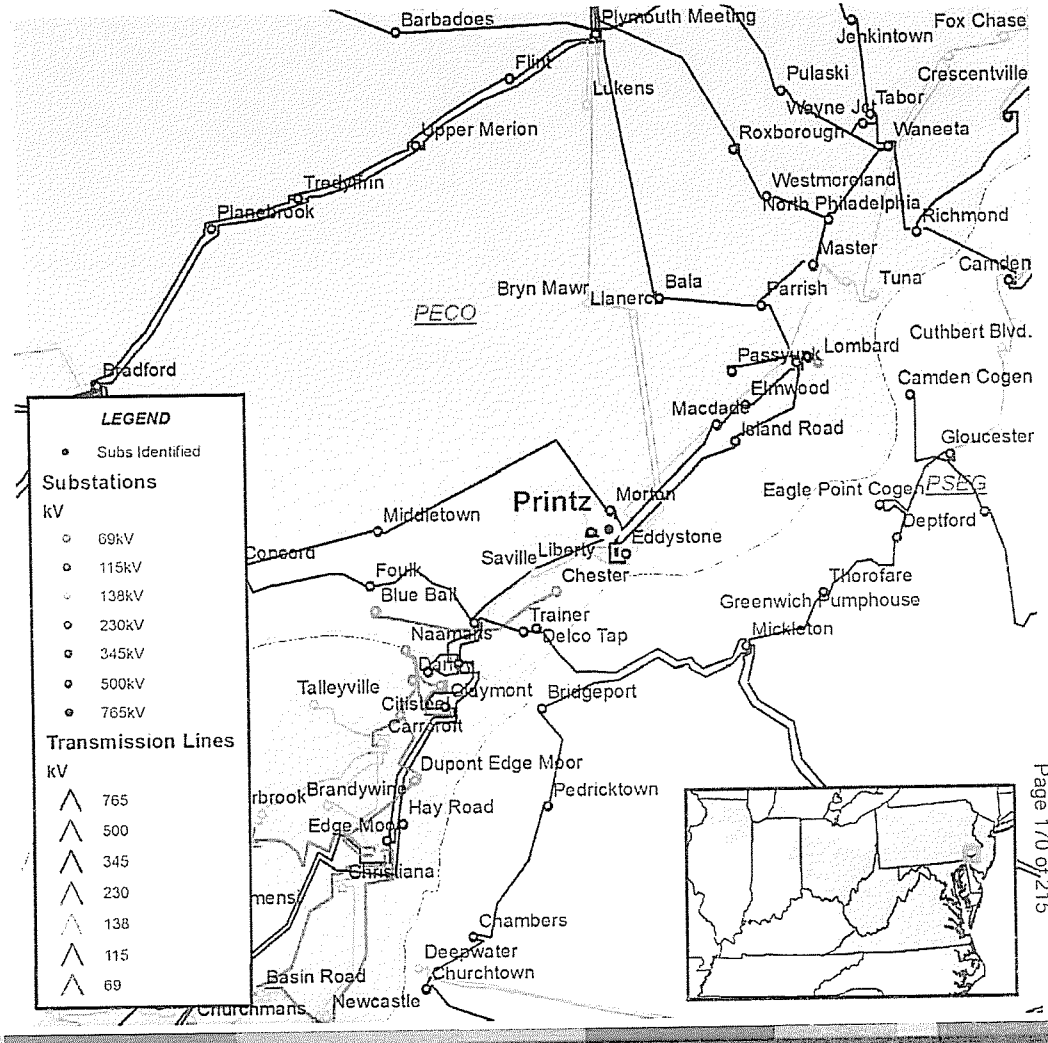
PECO Transmission Zone

- The following circuit breakers are overstressed
  - Waneeta 230 kV breaker '425'
  - Emilie 230 kV breaker '815'
  - Plymouth Meeting 230 kV breaker '265'
- Proposed Solution: Replace the following overstressed circuit breakers
  - Waneeta 230 kV breaker '425' (b1156.8)
  - Emilie 230 kV breaker '815' (b1156.9)
  - Plymouth Meeting 230 kV breaker '265' (b1156.10)
  - Croydon 230 kV breaker '115' (b1156.11)
- Estimated Project Cost: $500 K per breaker
- Expected IS Date: 6/1/2014



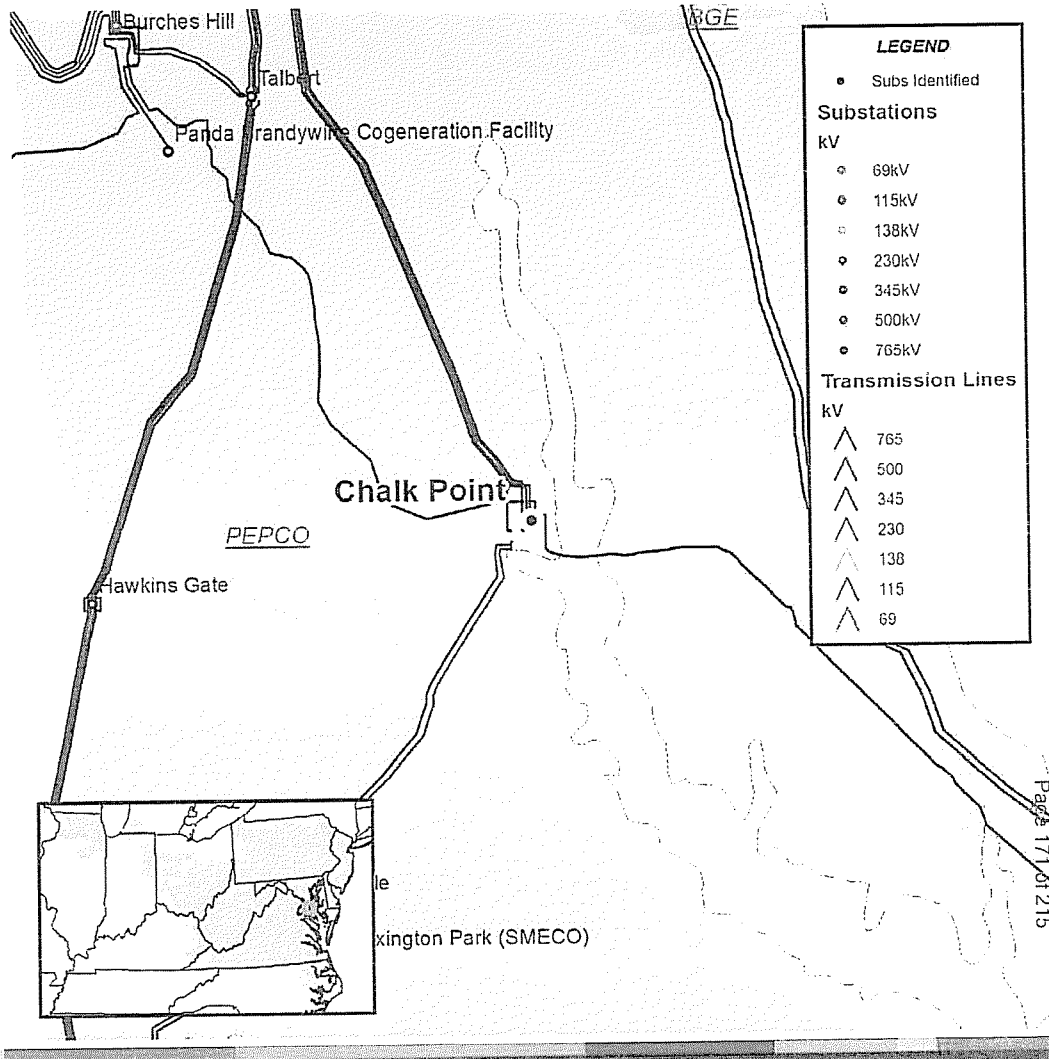
PECO Transmission Zone

- The following circuit breakers are overstressed
  - Printz 230 kV breaker '225'
  - Printz 230 kV breaker '315'
  - Printz 230 kV breaker '215'
- Proposed Solution:
  - Replace Printz 230 kV breaker '225' (b1338)
  - Replace Printz 230 kV breaker '315' (b1339)
  - Replace Printz 230 kV breaker '215' (b1340)
- Estimated Project Cost: $500 K per breaker
- Expected IS Date: 6/1/2015



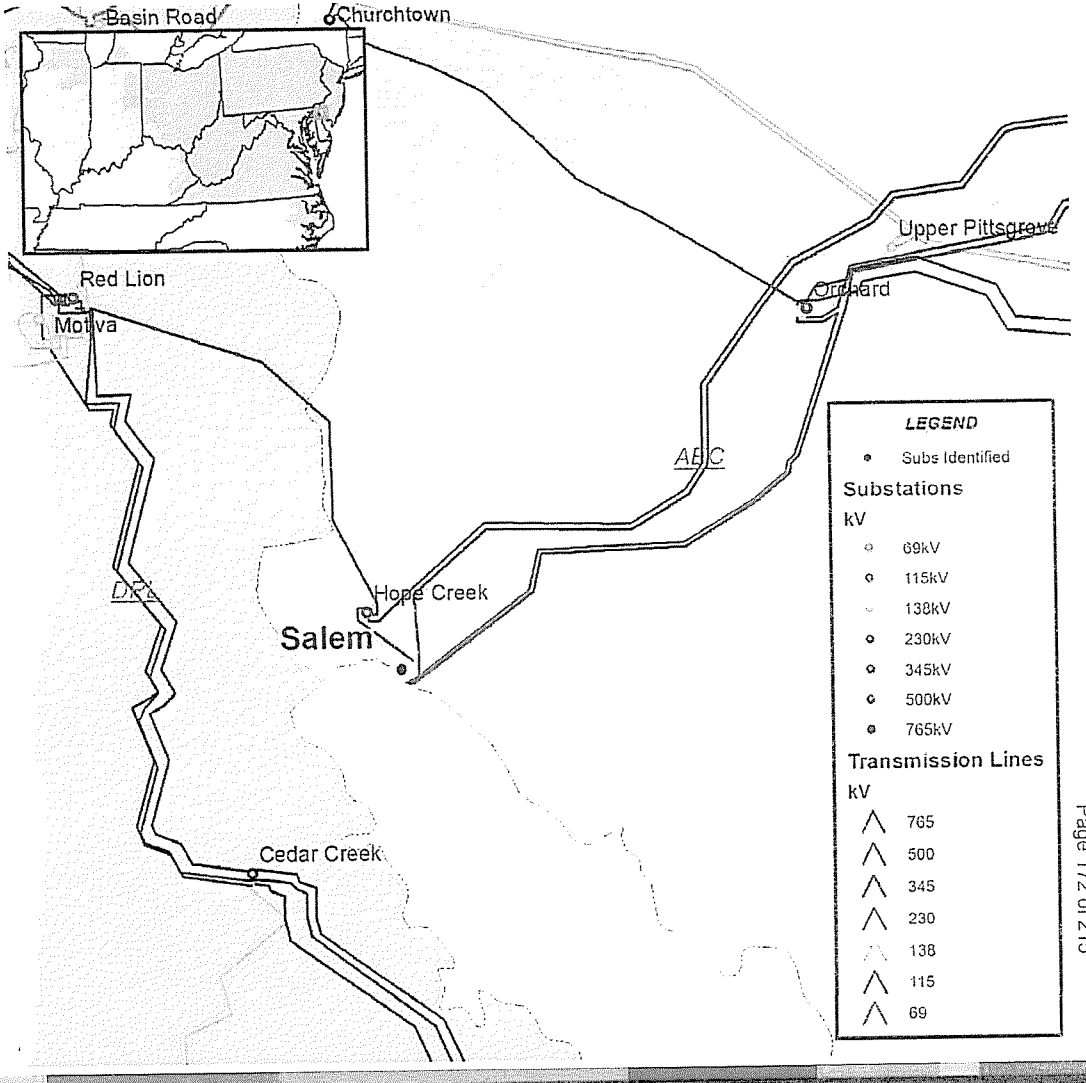
PEPCO Transmission Zone

- 23 circuit breakers are overstressed on the Chalk Point 230 kV bus
- PEPCO owns 19 of the 23 circuit breakers
- Proposed Solution: Replace the 19 (PEPCO owned) Chalk Point 230 kV breakers that are overstressed with breakers rated 80 kA (b0845-b0863)
- Estimated Project Cost:
  $2.0 M per breaker
- Expected IS Date: 12/31/2014



PSEG Transmission Zone

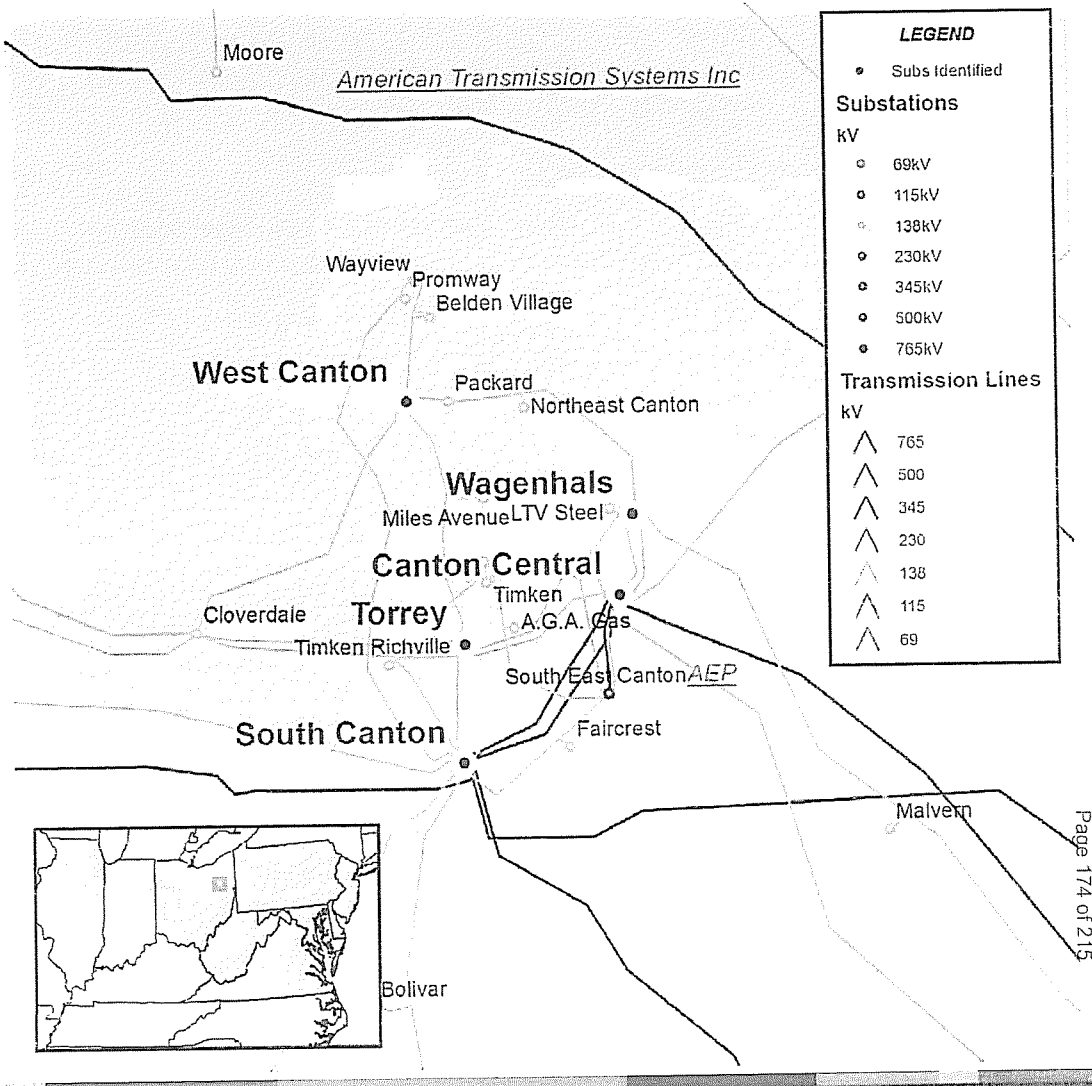
- The following circuit breakers are overstressed:
  - Salem 500 kV breaker '11X'
  - Salem 500 kV breaker '12X'
  - Salem 500 kV breaker '20X'
  - Salem 500 kV breaker '21X'
  - Salem 500 kV breaker '31X'
  - Salem 500 kV breaker '32X'
- Proposed Solution:
  - Replace the Salem 500 kV breaker '11X' (b1410)
  - Replace the Salem 500 kV breaker '12X' (b1411)
  - Replace the Salem 500 kV breaker '20X' (b1412)
  - Replace the Salem 500 kV breaker '21X' (b1413)
  - Replace the Salem 500 kV breaker '31X' (b1414)
  - Replace the Salem 500 kV breaker '32X' (b1415)
- Estimated Project Cost:
  $1.5 M per breaker
- Expected IS Date: 6/1/2011



Upgrades Previously Presented at the 10/6/2010 TEAC

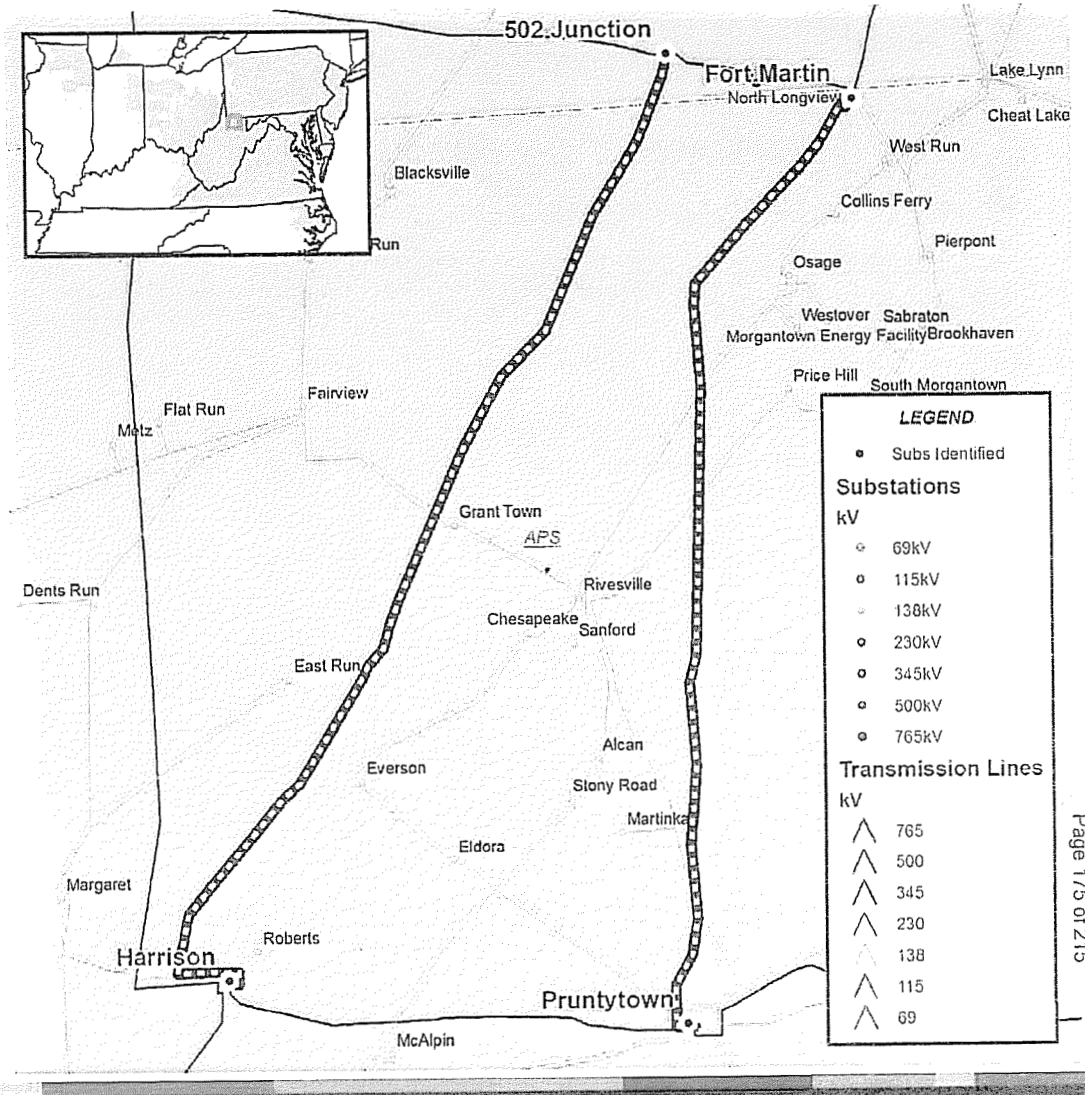
AEP Transmission Zone

- N-1-1 thermal violation for various contingencies
- Proposed Solutions:
  - These projects are additional detail for existing b1034.1 through b1034.4 to add a S. Canton to W. Canton 138kV line
  - Disconnect/eliminate the West Canton 138kV terminal at Torrey Station (b1034.5)
  - Replace all 138kV circuit breakers at South Canton Station and operate the station in a breaker and a half configuration (b1034.6)
  - Replace all obsolete 138kV circuit breakers at the Torrey and Wagenhals stations (b1034.7)
  - Install additional 138kV circuit breakers at the West Canton, South Canton, Canton Central, and Wagenhals stations to accommodate the new circuits (b1034.8)
- Estimated Project Cost: $28 M (includes previously presented b1034.* projects)
- Expected IS Date: 6/1/2014



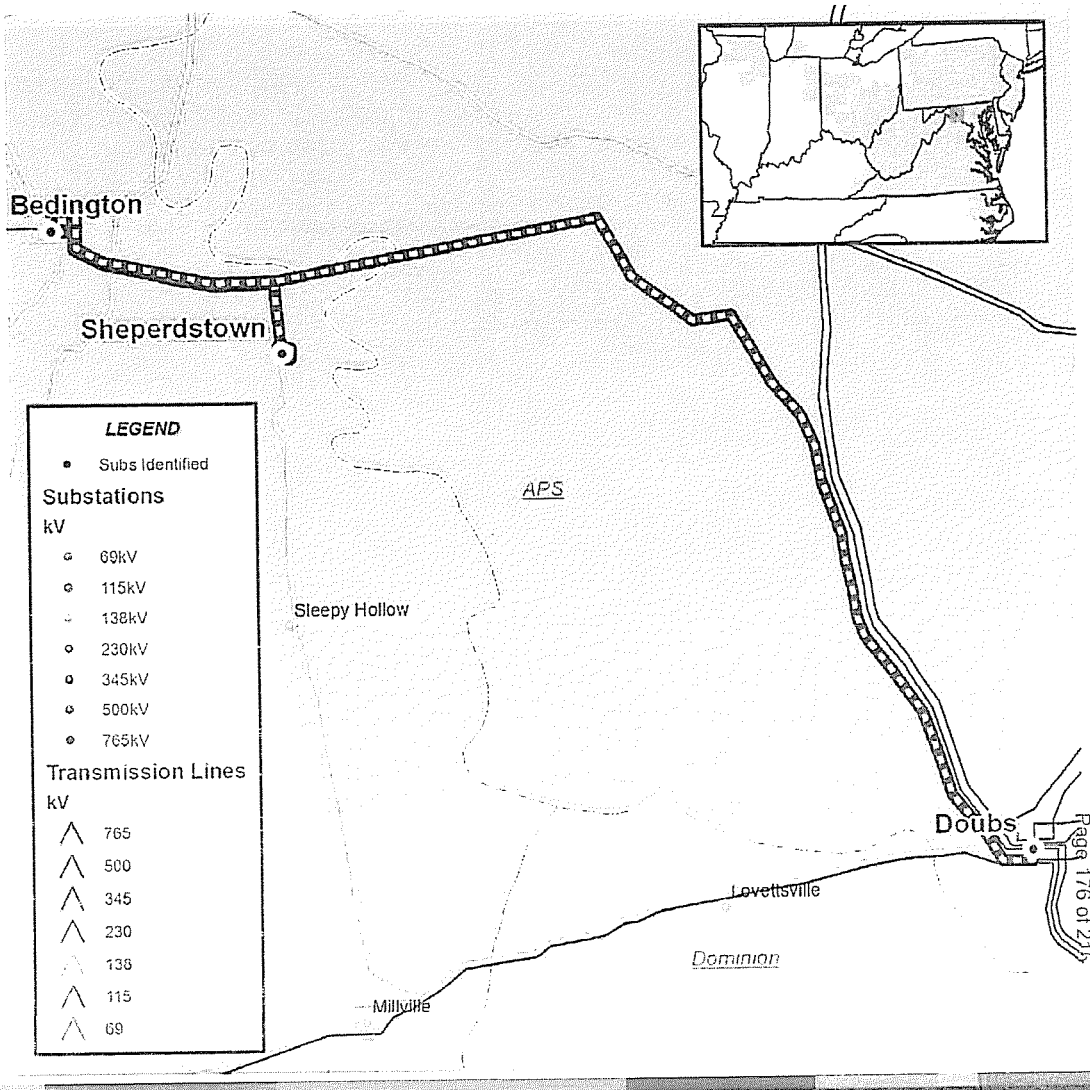
APS Transmission Zone

- N-1-1 Thermal Violation
- The 502 Junction 500/138kV transformer is overloaded for the loss of Harrison – Pruntytown 500kV + Fort Martin – Pruntytown 500kV
- Proposed Solution: Install 2nd 500/138kV transformer at 502 Junction (b1383)
- Estimated Project Cost: $15 M
- Expected IS Date: 6/1/2015



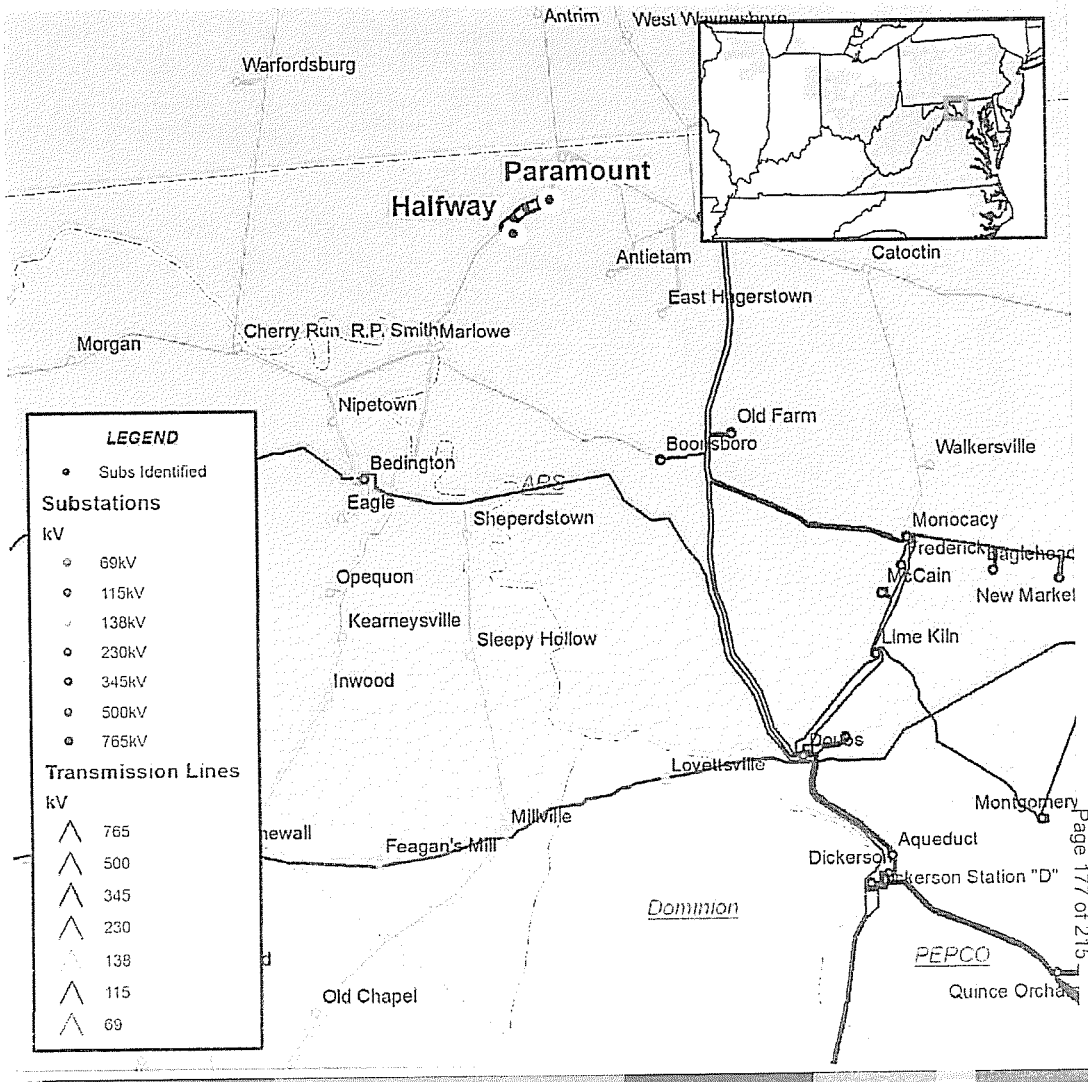
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Bedington – Shepherdstown 138kV for the loss of Bedington – Doubs 500kV + various other second contingencies
- Proposed Solution: Reconductor approximately 2.17 miles of Bedington – Shepherdstown 138kV with 954 ACSR (b1384)
- Estimated Project Cost: $1.75 M
- Expected IS Date: 6/1/2015



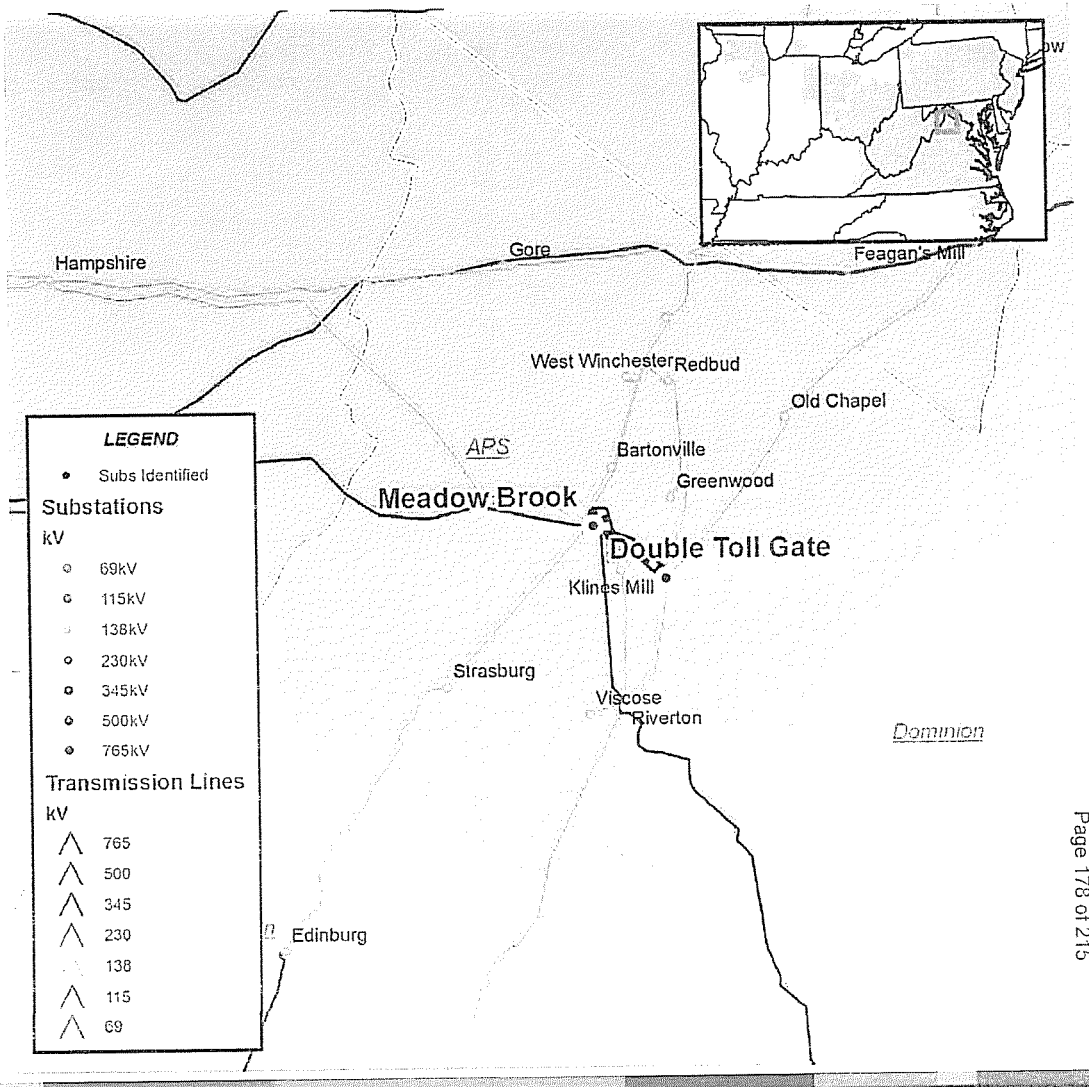
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Halfway – Paramount 138kV for the loss of Bedington – Doubs 500kV + Bedington – Nipetown 138kV
- Proposed Solution: Reconductor Halfway – Paramount 138kV with 1033 ACCR (b1385)
- Estimated Project Cost: $4.75 M
- Expected IS Date: 6/1/2015



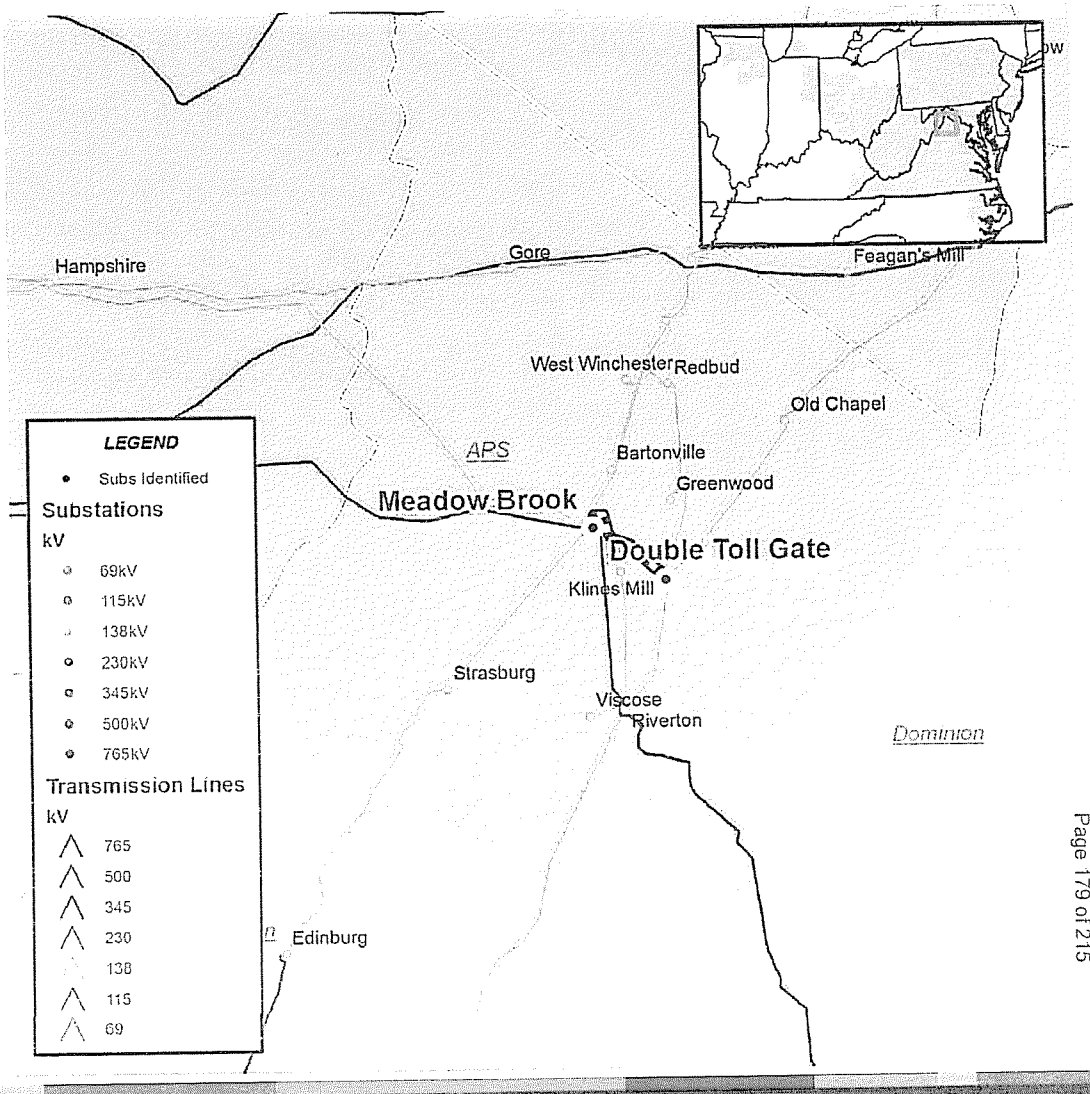
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Double Tollgate – Meadow Brook 138kV #2 for the loss of Double Tollgate – Meadow Brook 138kV #1 + various other second contingencies
- Proposed Solution: Reconductor Double Tollgate – Meadow Brook 138kV #2 with 1033 ACCR (b1386)
- Estimated Project Cost: $9 M
- Expected IS Date: 6/1/2015



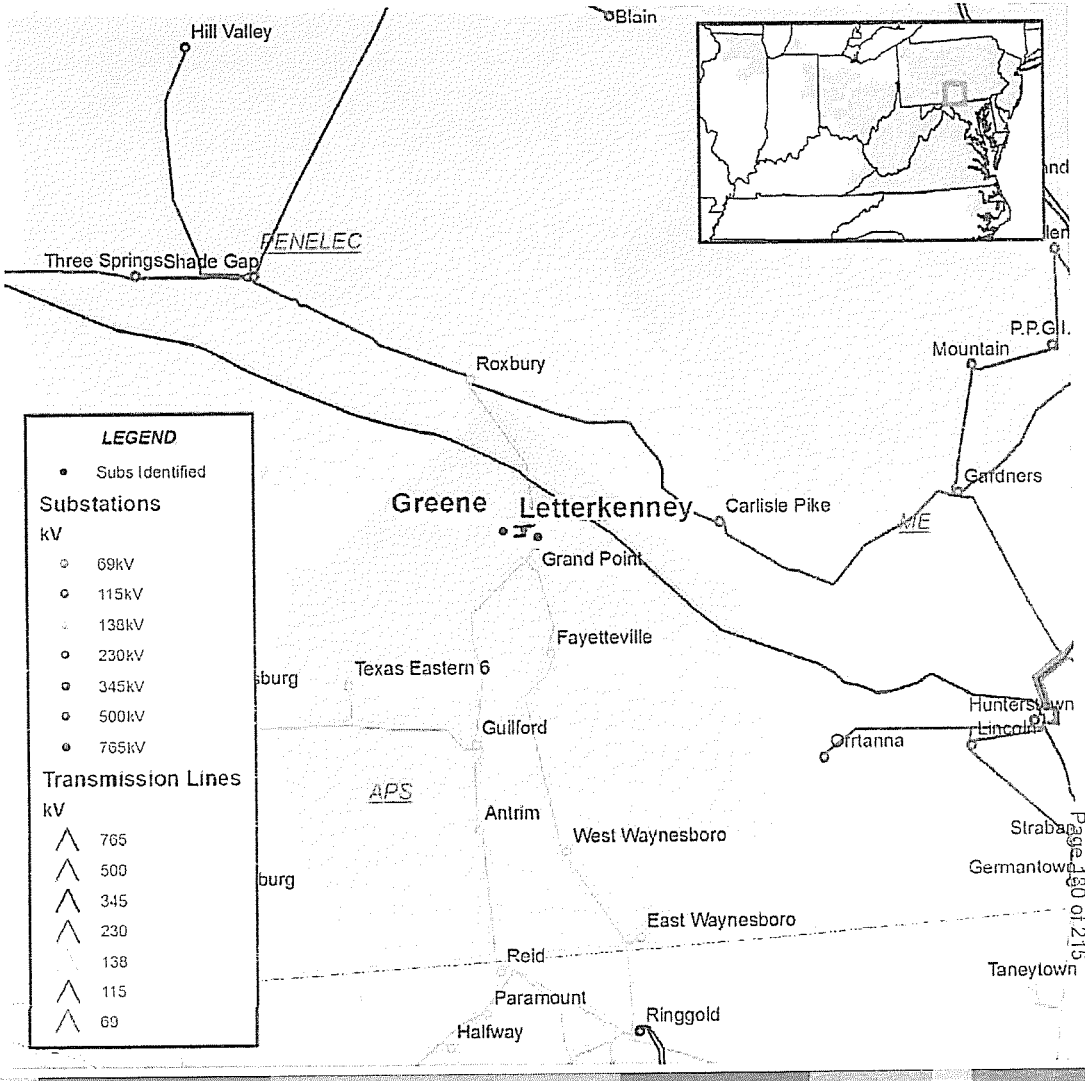
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Double Tollgate – Meadow Brook 138kV #1 for the loss of Double Tollgate – Meadow Brook 138kV #2 + various other second contingencies
- Proposed Solution: Reconductor Double Tollgate – Meadow Brook 138kV #1 with 1033 ACCR (b1387)
- Estimated Project Cost: $9 M
- Expected IS Date: 6/1/2015



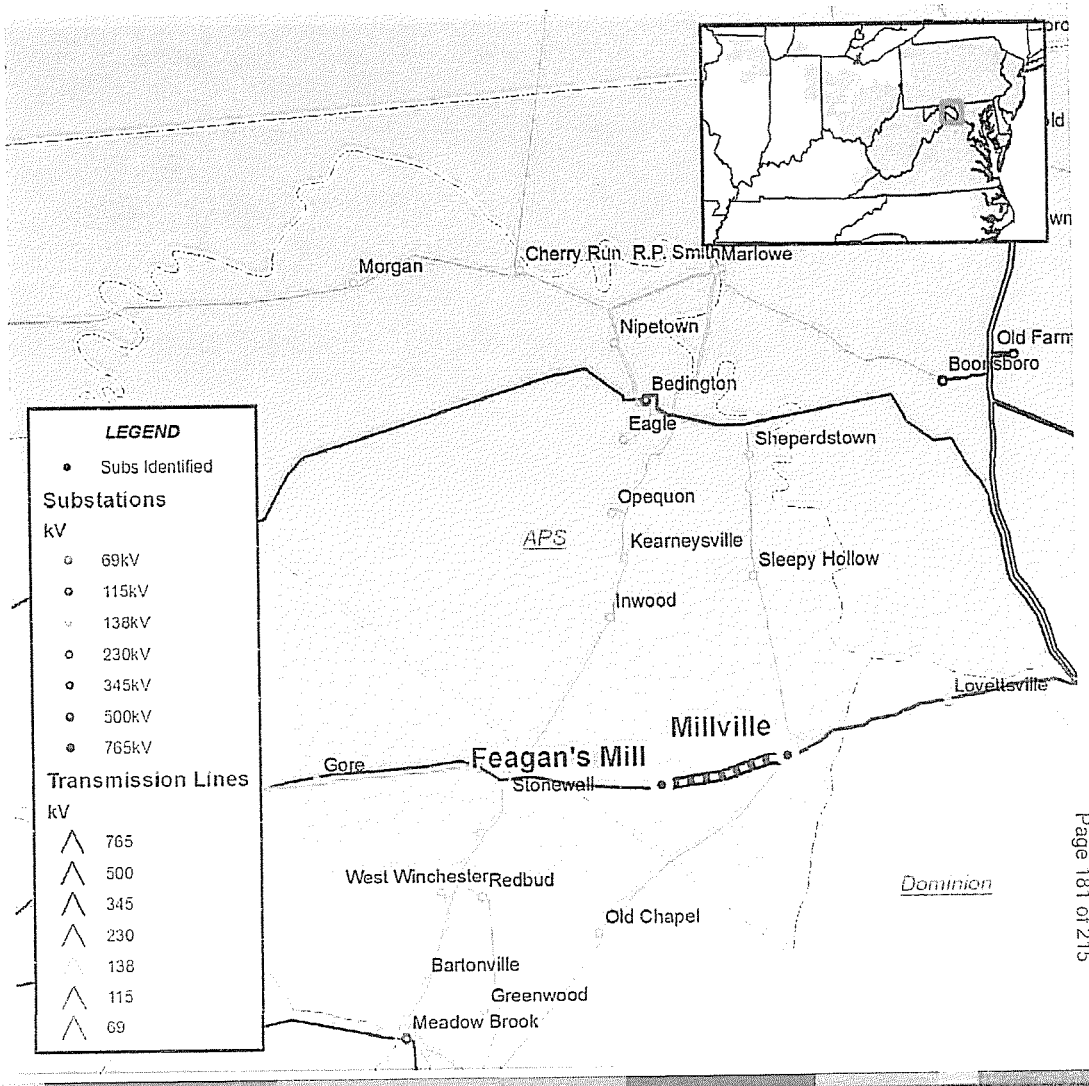
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Greene - Letterkenny 138kV for the loss of Guilford – South Chambersburg 138kV + East Waynesboro – Ringgold 138kV
- Proposed Solution: Reconductor Greene - Letterkenny 138kV 795 ACSS (Revise baseline project b0680)
- Estimated Project Cost: $1.7 M
- Expected IS Date: 6/1/2013



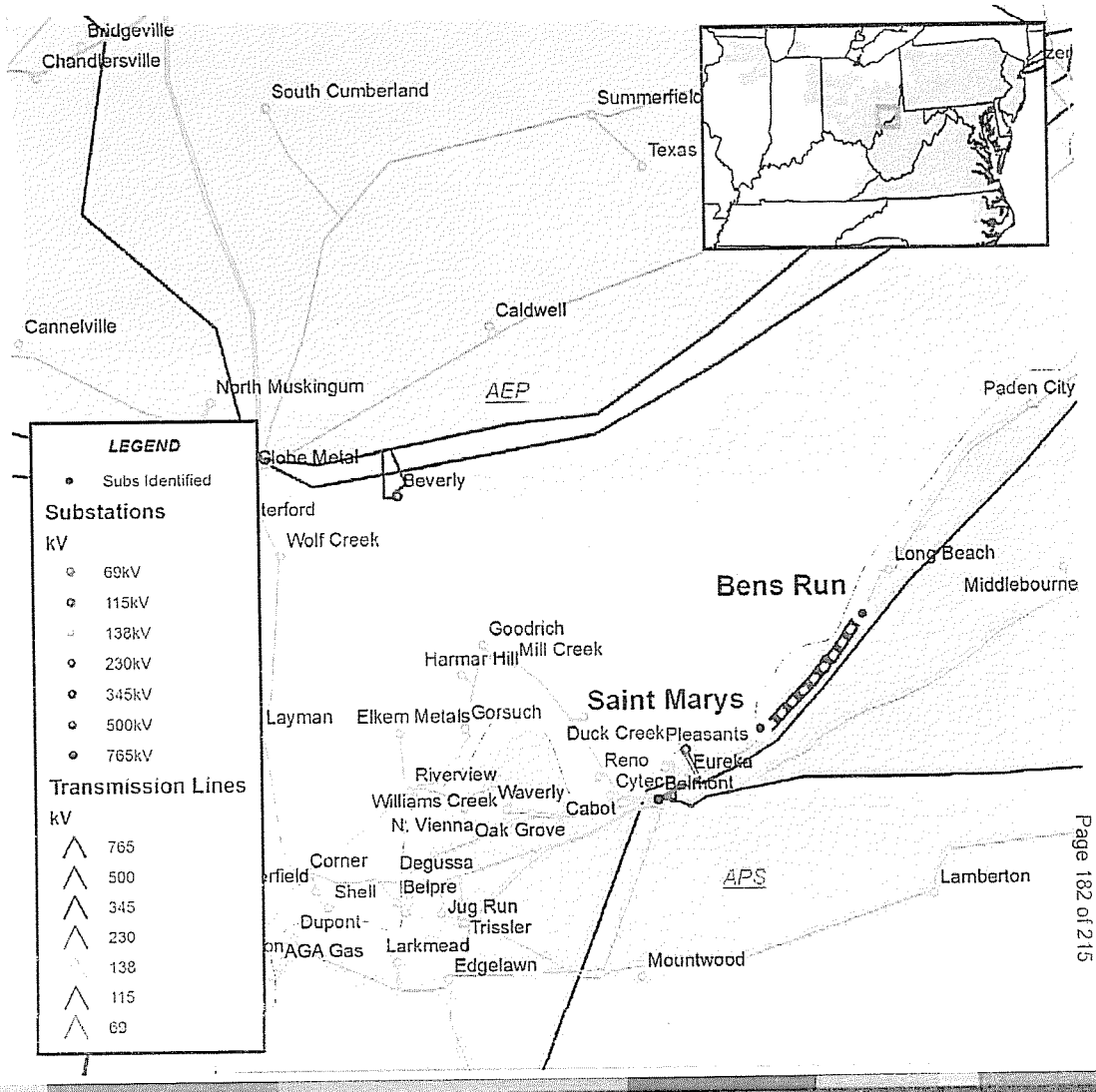
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Feagans Mill - Millville 138kV for the loss of Bedington - Opequon 138kV + Bartonville – Meadowbrook 138kV
- Proposed Solution: Reconductor Feagans Mill - Millville 138kV with 954 ACSR (b1388)
- Estimated Project Cost: $3.5 M
- Expected IS Date: 6/1/2015



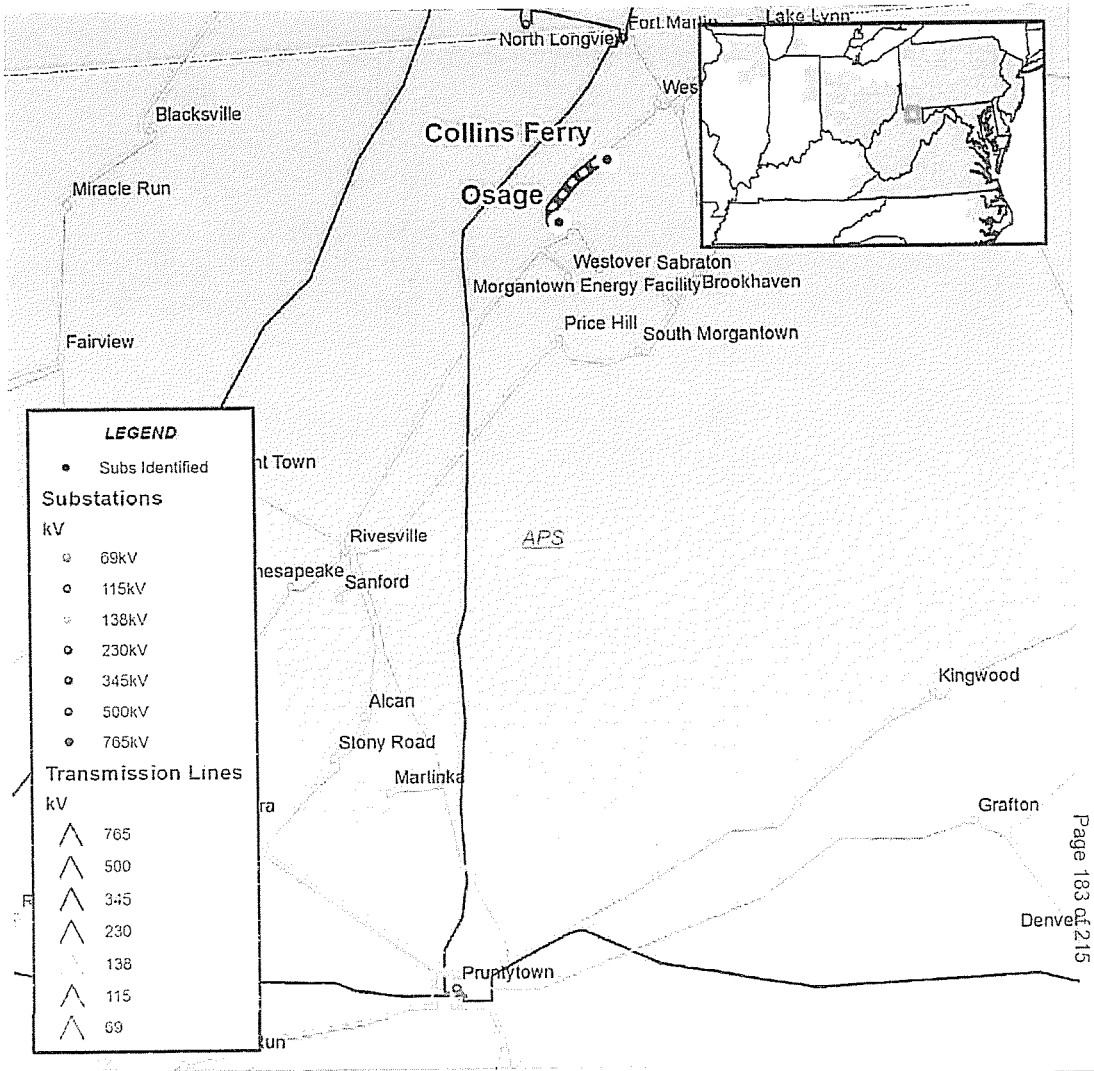
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Bens Run – St. Mary's 138kV for the loss of various contingency combinations around Belmont
- Proposed Solution: Reconductor Bens Run – St. Mary's 138kV with 954 ACSR (b1389)
- Estimated Project Cost: $5.8 M
- Expected IS Date: 6/1/2015



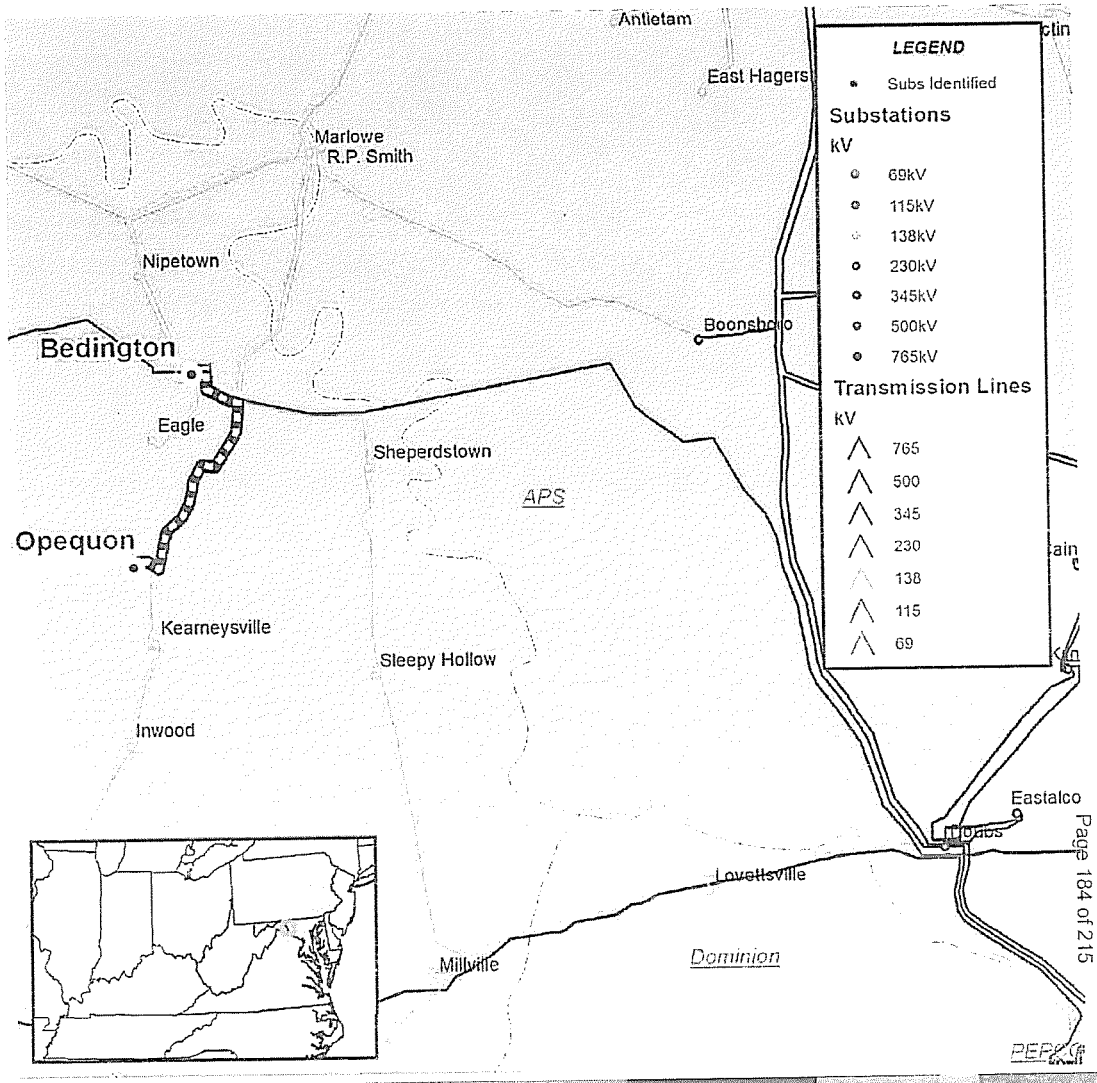
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Osage – Collins Ferry 138kV for the loss of Hatfield – Black Oak 500kV + one of the following circuits:
  - Price Hill – Pruntytown 138kV
  - Martinka – Pruntytown 138kV
  - Martinka – Price Hill 138kV
- Proposed Solution: Reconductor Osage – Collins Ferry 138kV with 954 ACSR (Revise baseline project b1028)
- Estimated Project Cost: $2.3 M
- Expected IS Date: 6/1/2013



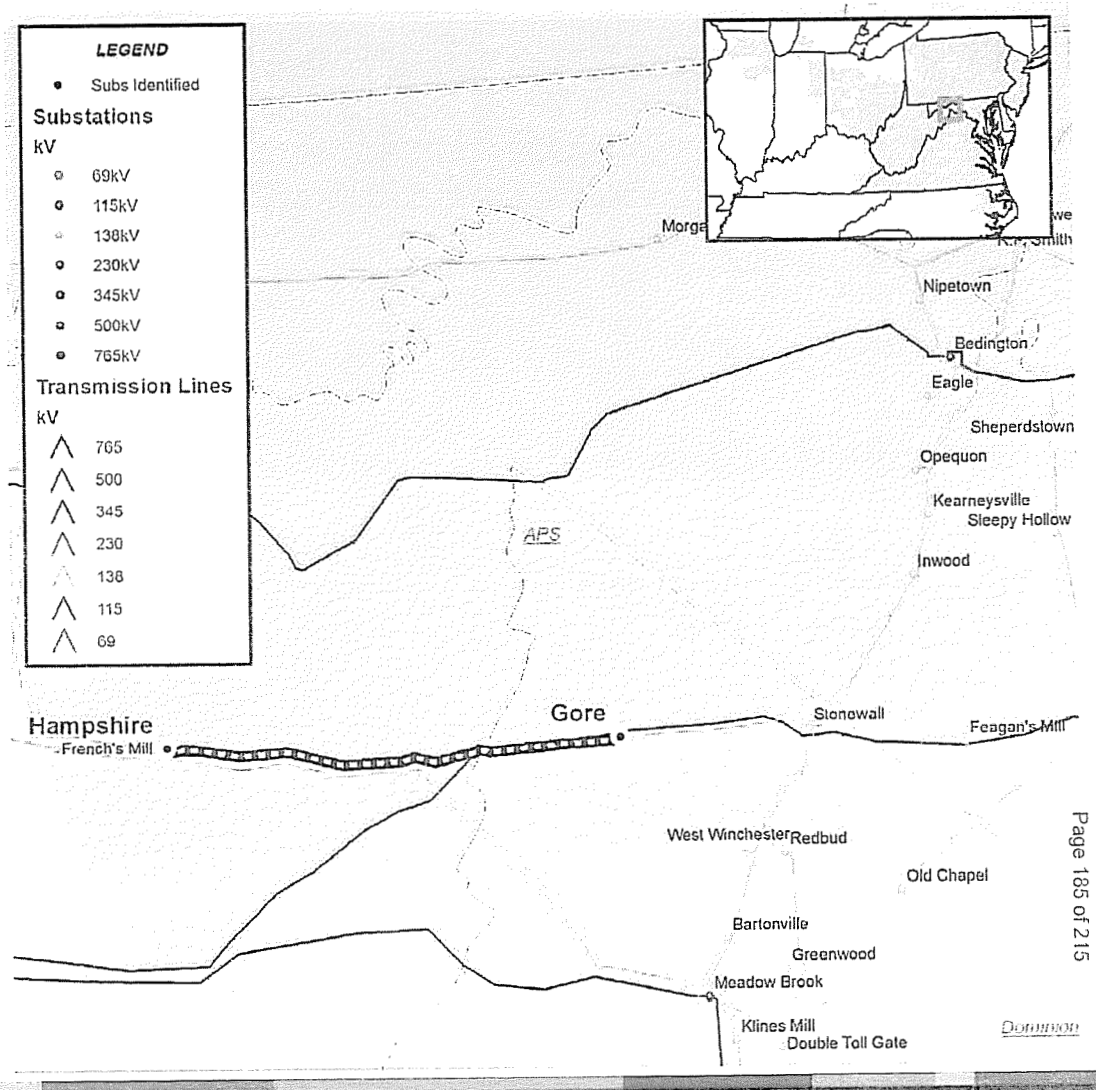
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Bedington – Opequon 138kV for the loss of Bedington – Doubs 500kV + Bedington – Shepherdstown 138kV
- Proposed Solution: Replace Bus Tie Breaker at Opequon (b1390)
- Estimated Project Cost: $0.25 M
- Expected IS Date: 6/1/2015



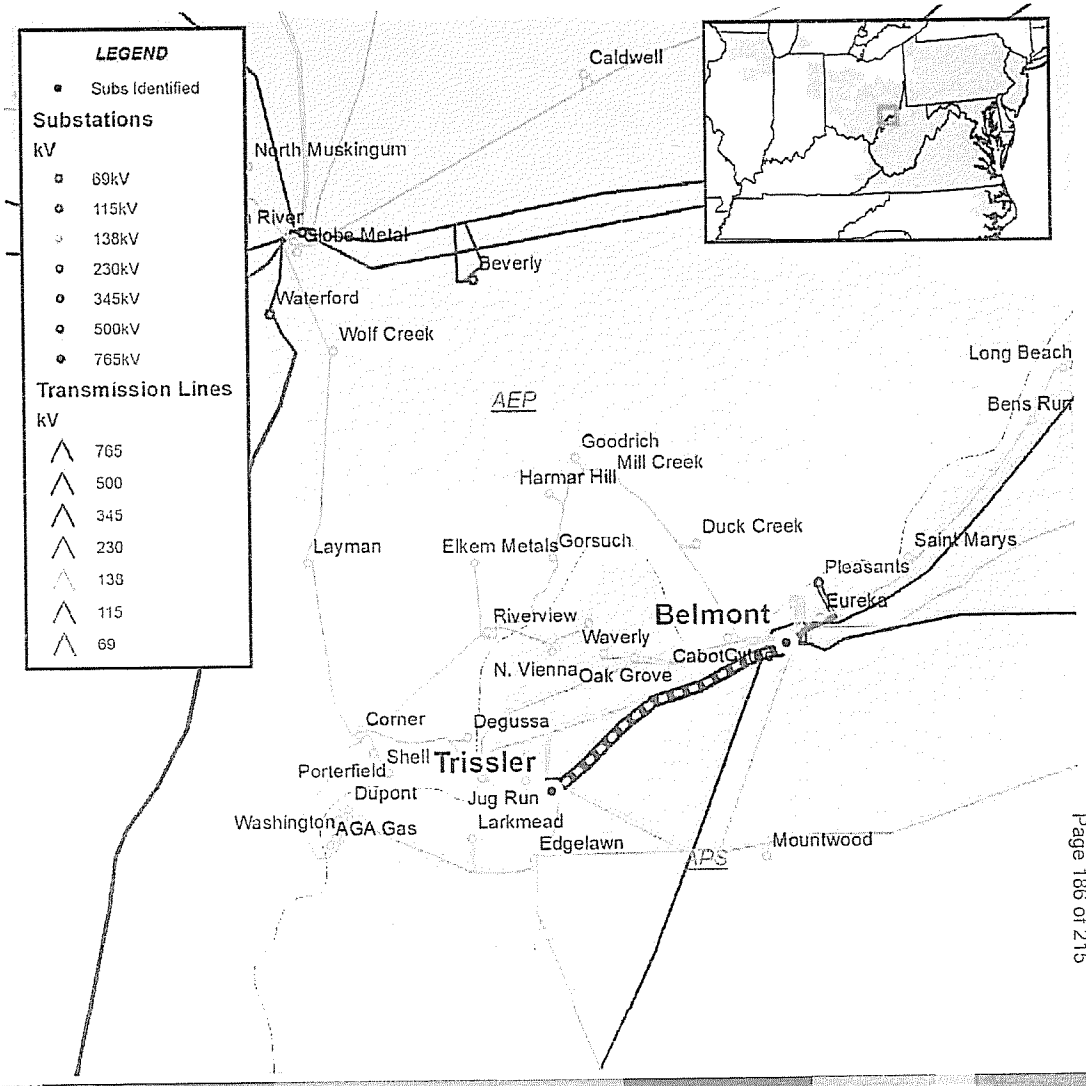
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Gore – Hampshire 138kV for the loss of Bedington – Opequon 138kV + Bartonville – Meadow Brook 138kV
- Proposed Solution: Replace Line Trap at Gore (b1391)
- Estimated Project Cost: $0.25 M
- Expected IS Date: 6/1/2015



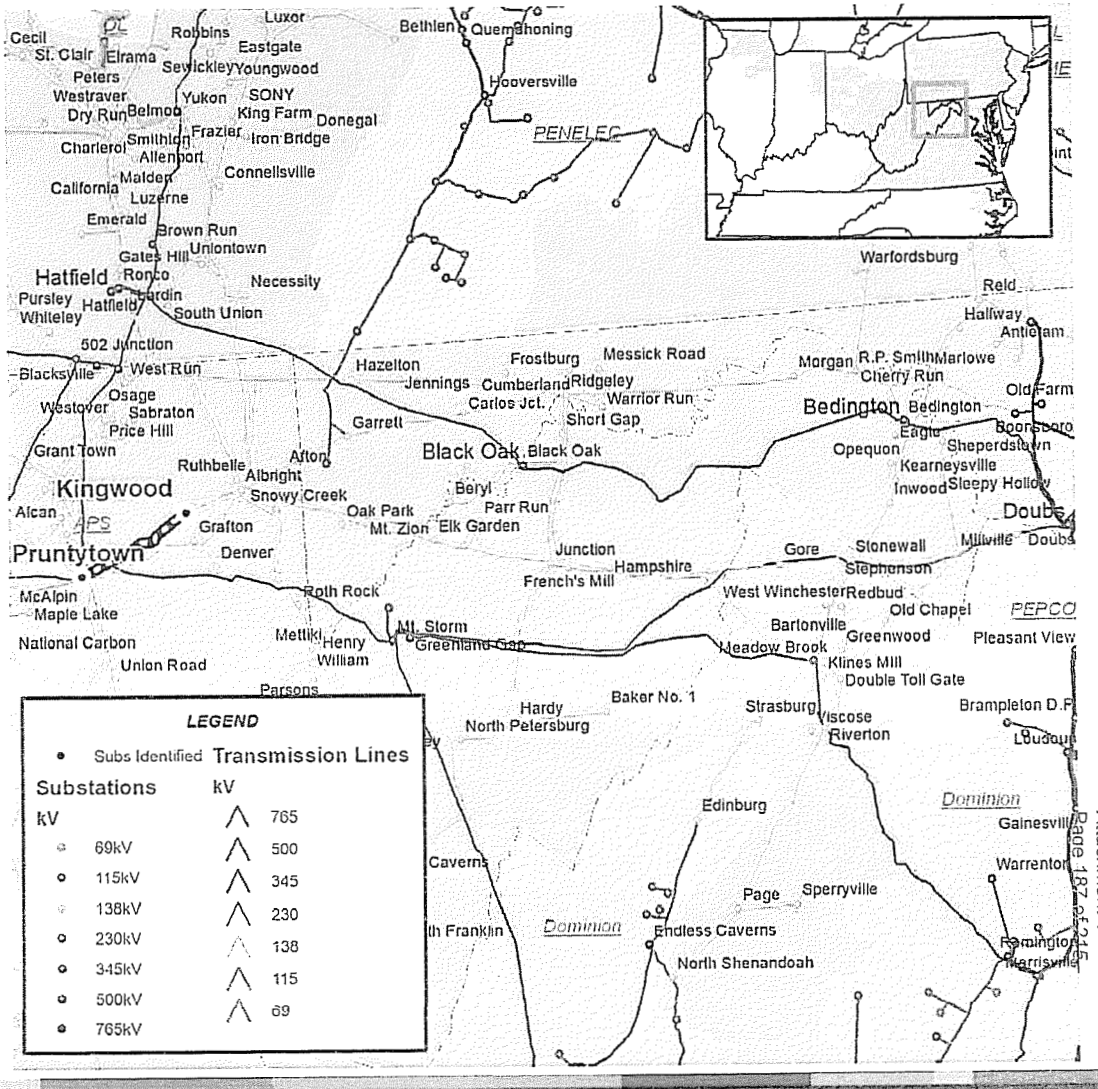
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Belmont – Trissler 138kV #1 for the loss of Belmont – Trissler 138kV #2 and one of the following circuits:
  - Belmont – Edgelawn 138kV
  - Oak Grove – Johns Manville 138kV
- Proposed Solution: Replace structures on the Belmont – Trissler 138kV line (b1392)
- Estimated Project Cost: $0.5 M
- Expected IS Date: 6/1/2015



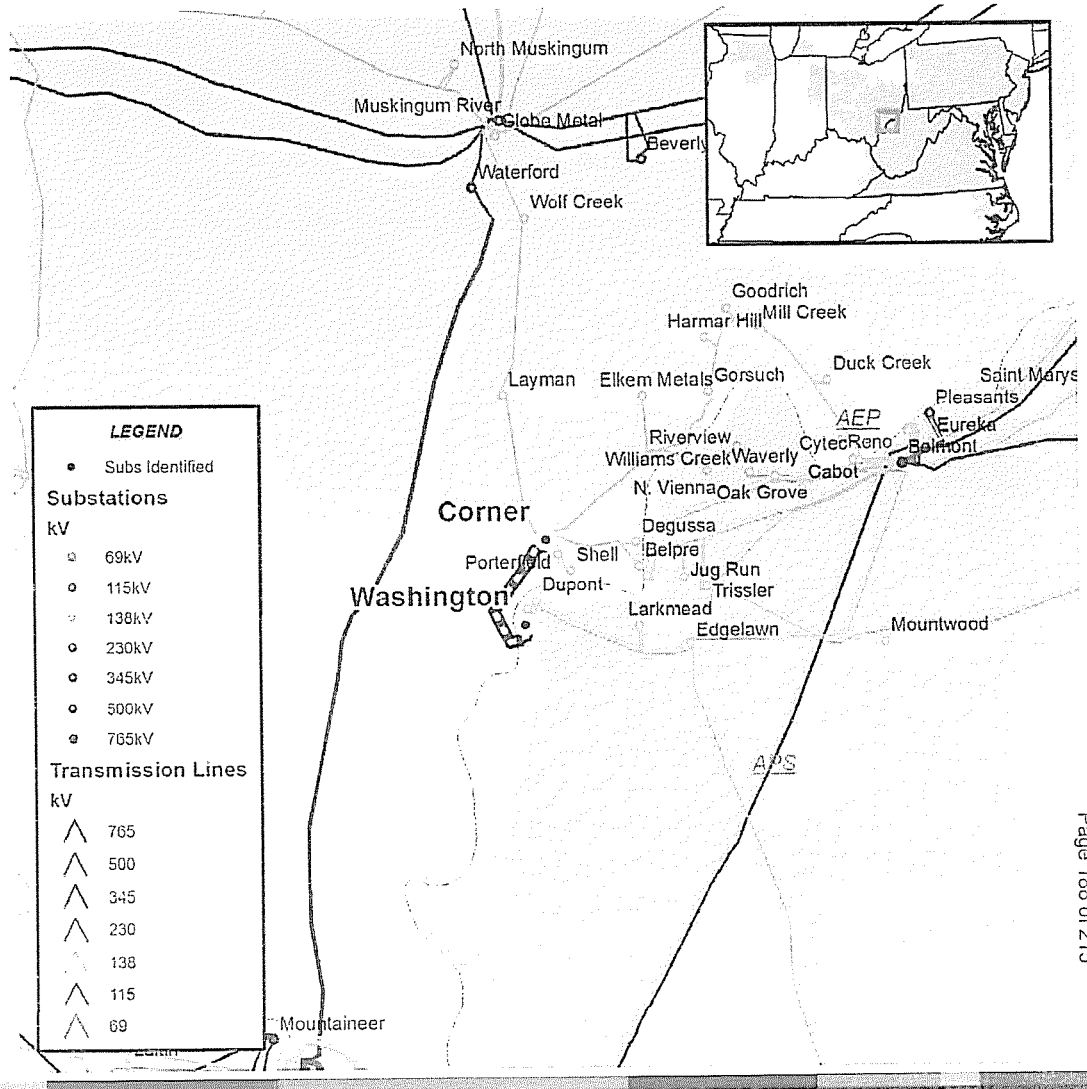
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Kingwood – Pruntytown 138kV for the loss of Bedington – Doubs 500kV + Hatfield – Black Oak 500kV
- Proposed Solution: Replace structures on the Kingwood - Pruntytown 138kV line (b1393)
- Estimated Project Cost: $1 M
- Expected IS Date: 6/1/2015



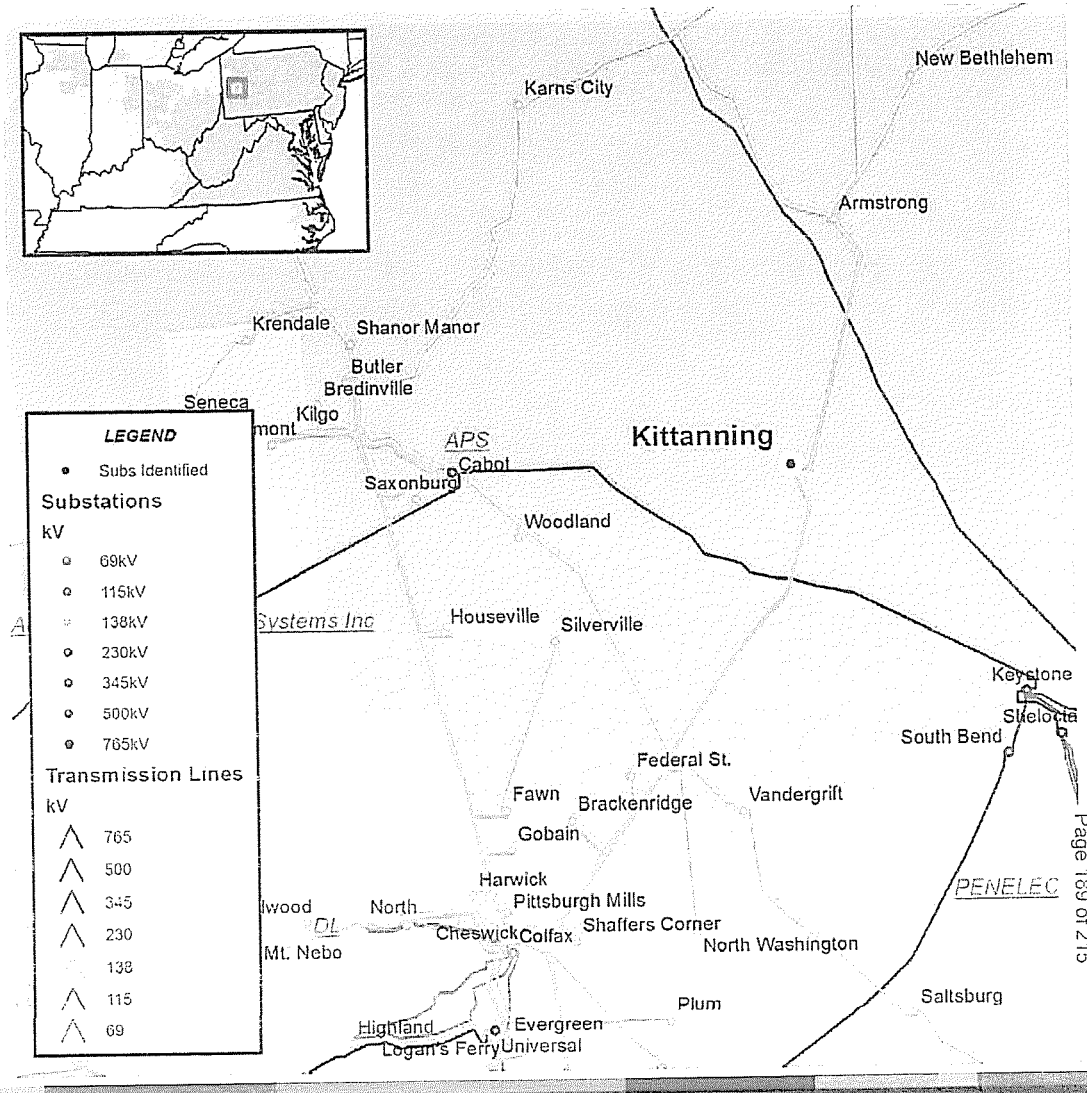
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Washington (MP) – Corner 138kV for the loss of Edgelawn – Trissler 138kV + Belmont – Edgelawn 138kV
- Proposed Solution: Upgrade Relay Circuitry at Washington (b1394)
- Estimated Project Cost: $0.05 M
- Expected IS Date: 6/1/2015



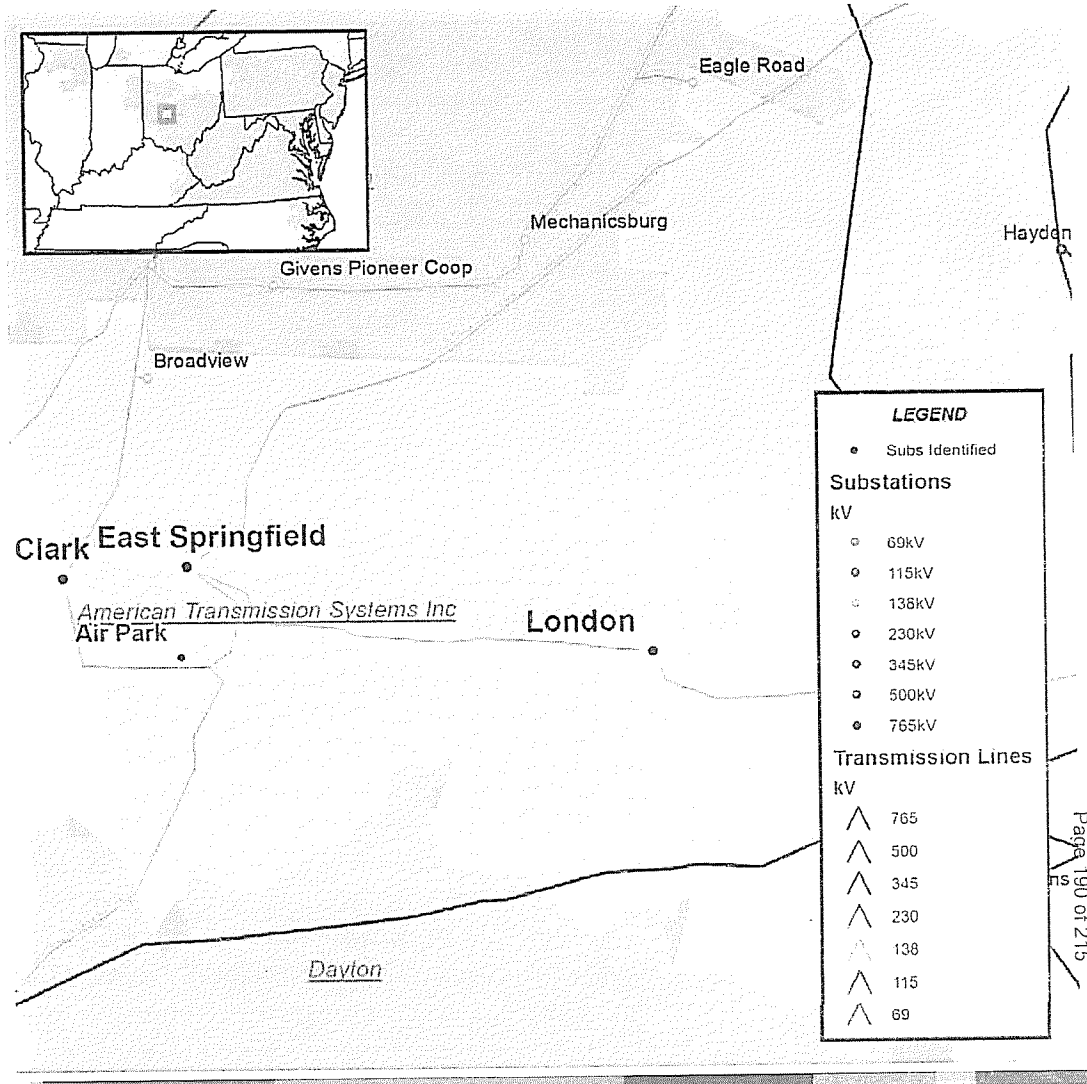
APS Transmission Zone

- N-1-1 Thermal Violation
- Overload of Kittanning – Garretts Run Jct 138kV for the loss of Allegheny Ludlum 4 Junction-Springdale 138kV + Allegheny Ludlum 2-Allegheny Ludlum 2 Junction138kV
- Proposed Solution: Upgrade Terminal Equipment at Kittanning (b1395)
- Estimated Project Cost: $0.05 M
- Expected IS Date: 6/1/2015



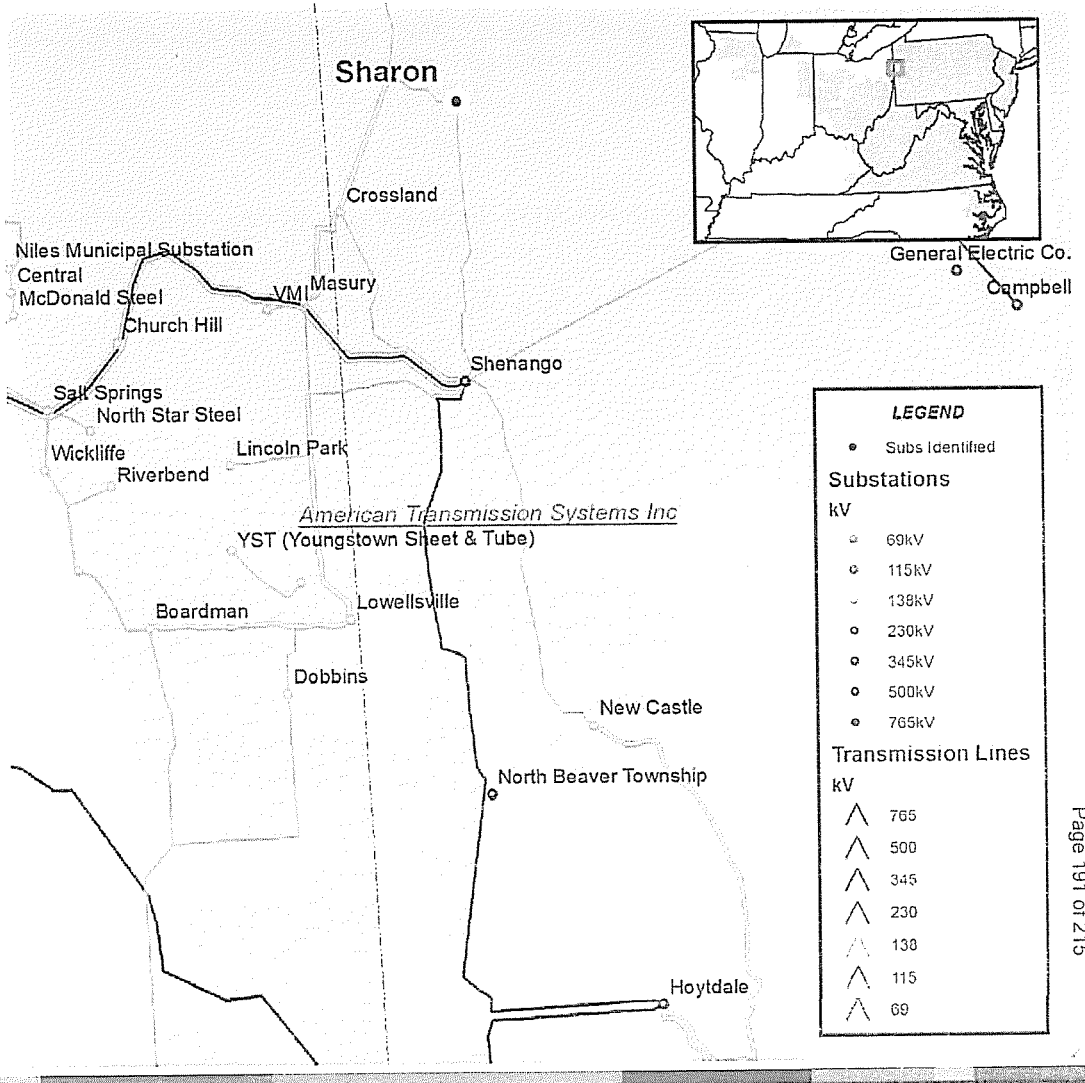
ATSI Transmission Zone

- N-1-1 Voltage violation
- Low Voltage magnitude and Voltage drop at Airpark, Clark, East Spring, and London 138kV buses for various contingency combinations
- Proposed Solution: Install a 25 MVAR cap bank at Airpark 138kV substation (b1341)
- Estimated Project Cost: $1.5 M
- Expected IS Date: 6/1/2015



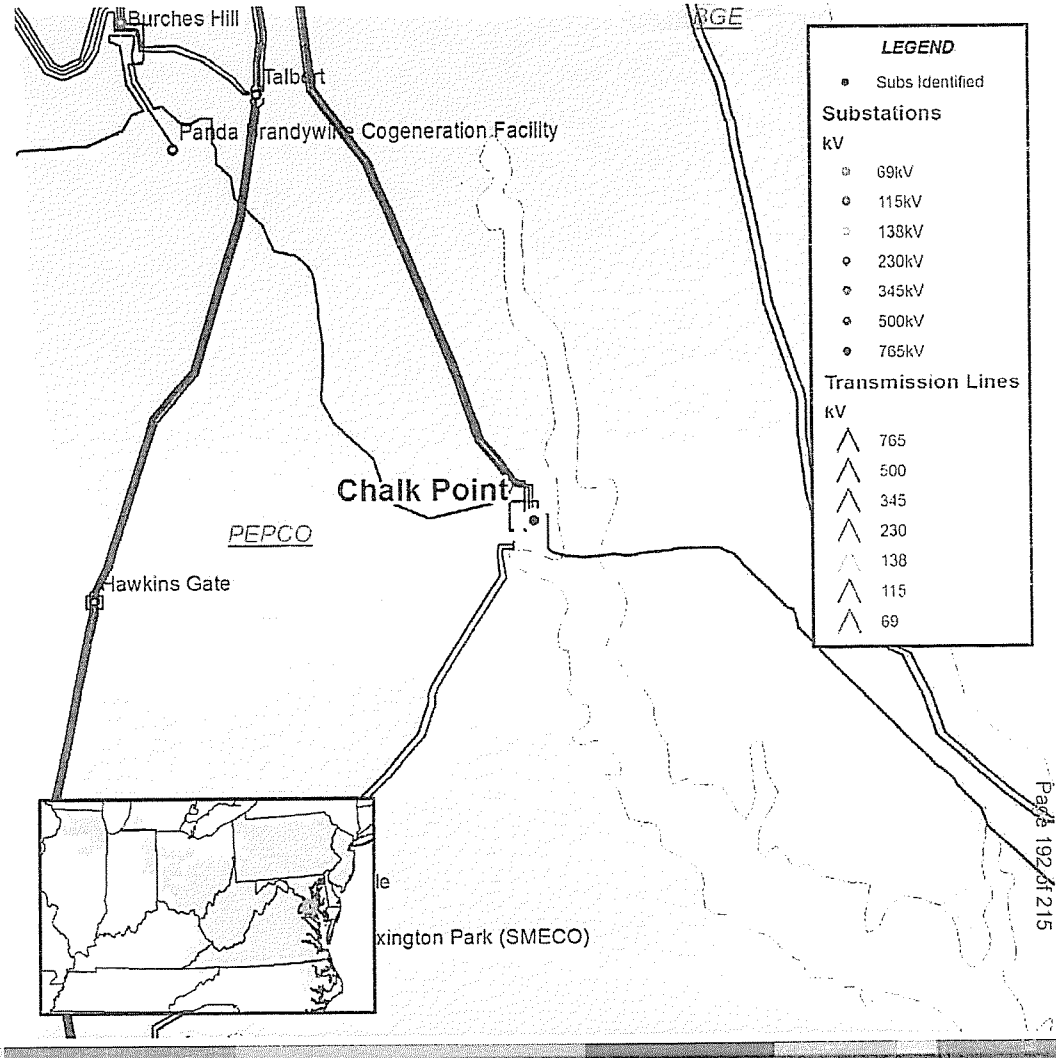
ATSI Transmission Zone

- N-1-1 Voltage violation
- Low voltage magnitude at Maysville, Sharon, Sharpsville, Winner 138kV buses for the loss of the Hoytdale – Shenango 345kV line and the Highland - Shenango 345kV line
- Proposed Solution: Install a 50 MVAR cap bank at Sharon 138kV substation (b1342)
- Estimated Project Cost: $1.32 M
- Expected IS Date: 6/1/2015



PEPCO Transmission Zone

- 23 circuit breakers are overstressed on the Chalk Point 230 kV bus
- PEPCO owns 19 of the 23 circuit breakers
- Proposed Solution: Replace the 19 (PEPCO owned) Chalk Point 230 kV breakers that are overstressed with breakers rated 80 kA (b0845-b0863)
- Following up on the remaining 4 breakers with the owner
- Estimated Project Cost:
  $2.0 M per breaker
- Expected IS Date: 12/31/2014



Baseline Reliability Summary

Baseline Reliability Summary

- Baseline upgrade solutions in this presentation (with the exception of ATSI) will be Proposed to the PJM Board in late November 2010 for approval and inclusion in the RTEP

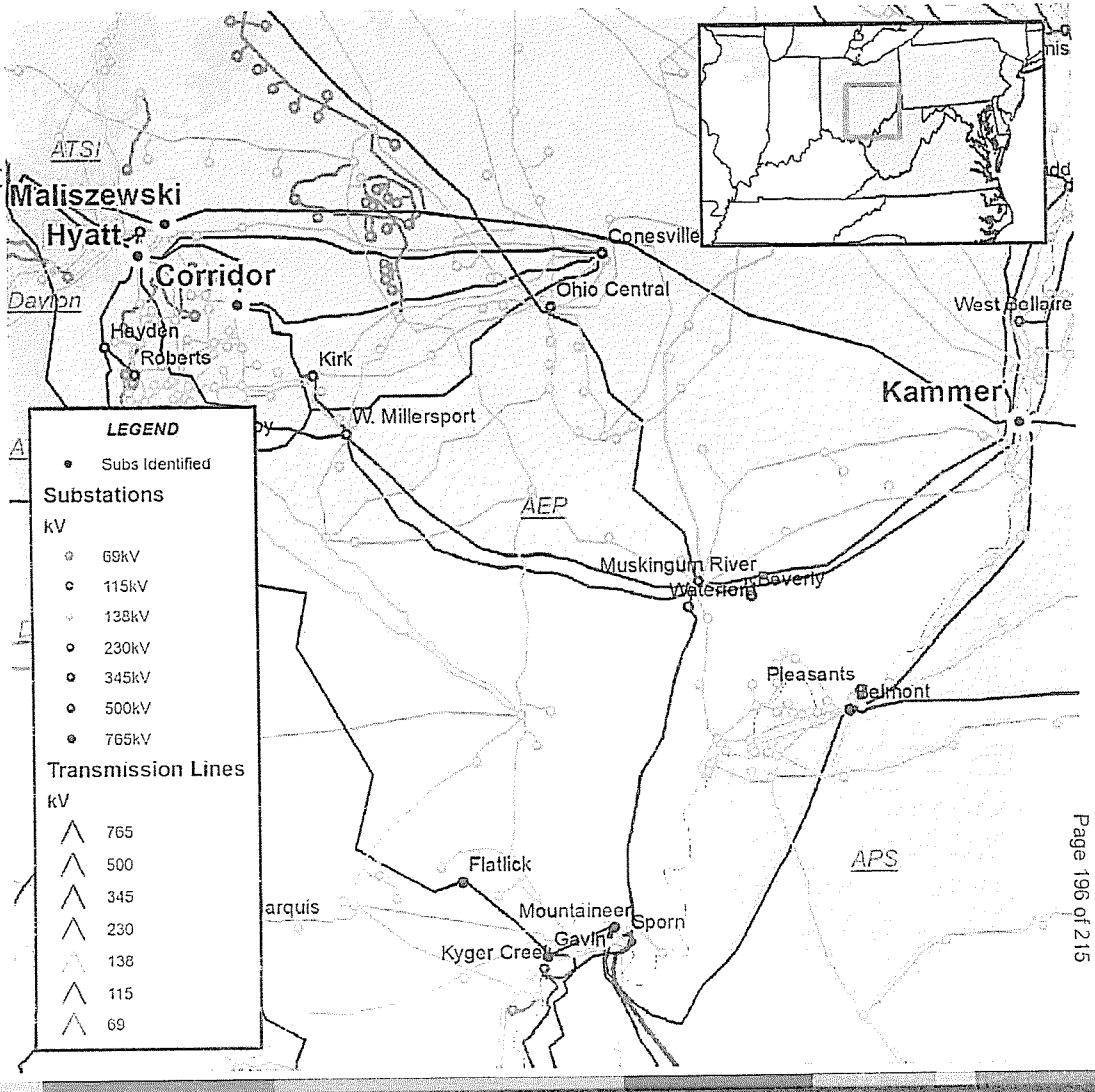
- ATSI mitigation plans will continue to be reviewed with the TEAC and will be presented to the PJM Board for approval following the planned June 1, 2011 ATSI integration

- Supplemental upgrades are not approved by the PJM Board

Supplemental Upgrades

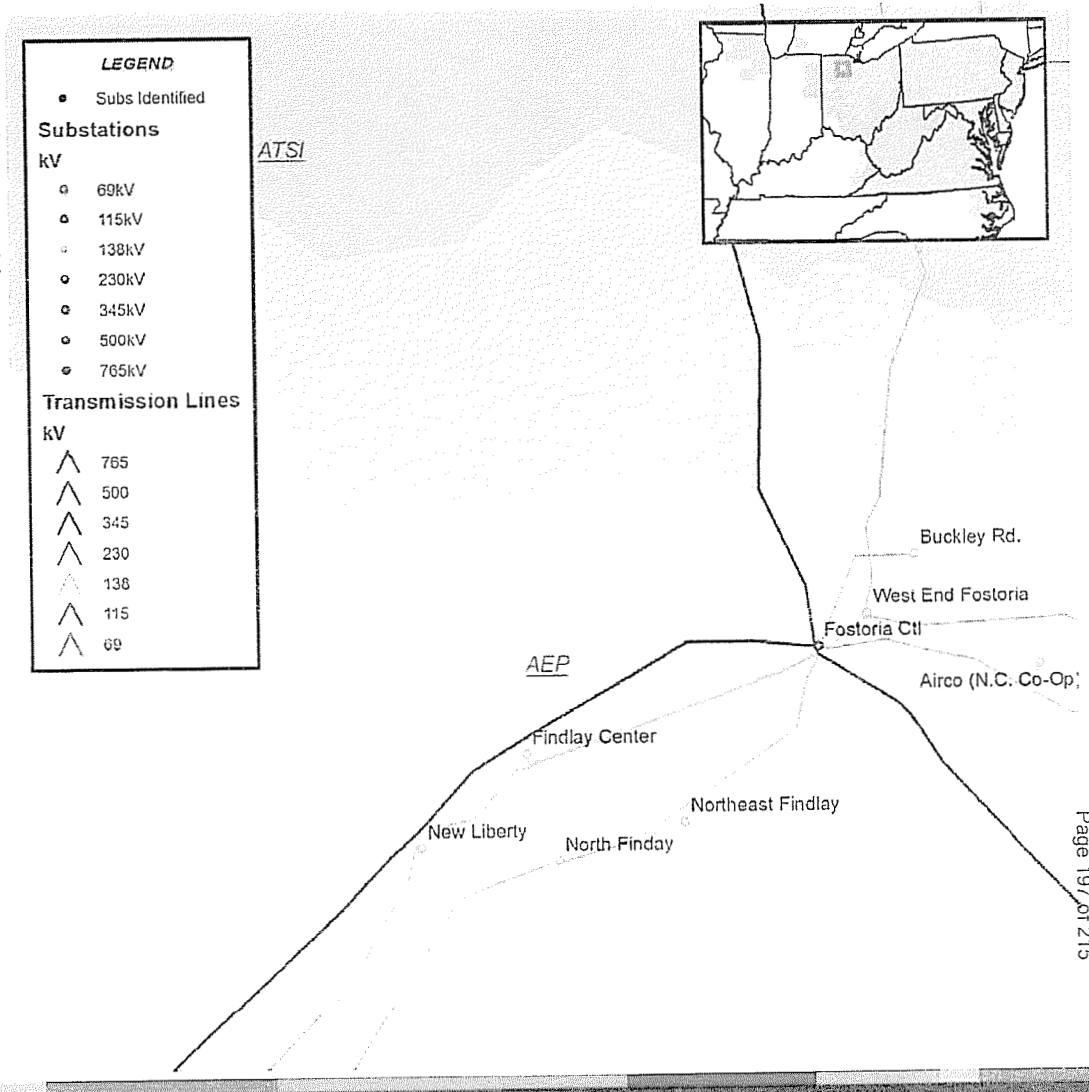
AEP Transmission Zone

- Build a new "Vassell" 765/345/138 kV Station to the North of Columbus, OH at the intersection of the Kammer – Maliszewski 765 kV line and the Hyatt – Corridor 345 kV line
- This station will provide another EHV source to the area to mainly address potential voltage issues that have been demonstrated for specific outage and transfer scenarios. (S0251)
- Estimated Project Cost: $185 M
- Expected IS Date: 5/1/2014



AEP Transmission Zone

- A load customer requested American Electric Power (AEP) to conduct an Expedited System Study to determine the feasibility and facilities required to provide a Liberty Hi 34.5 kV delivery point. The new 34.5 kV delivery point near North Baltimore, Ohio taps the New Liberty – North Baltimore circuit.
- The load to be served is approximately 8 MVA (S0250)
- Estimated Project Cost: $0.286 M
- Expected IS Date: 6/18/2010



AEP Transmission Zone

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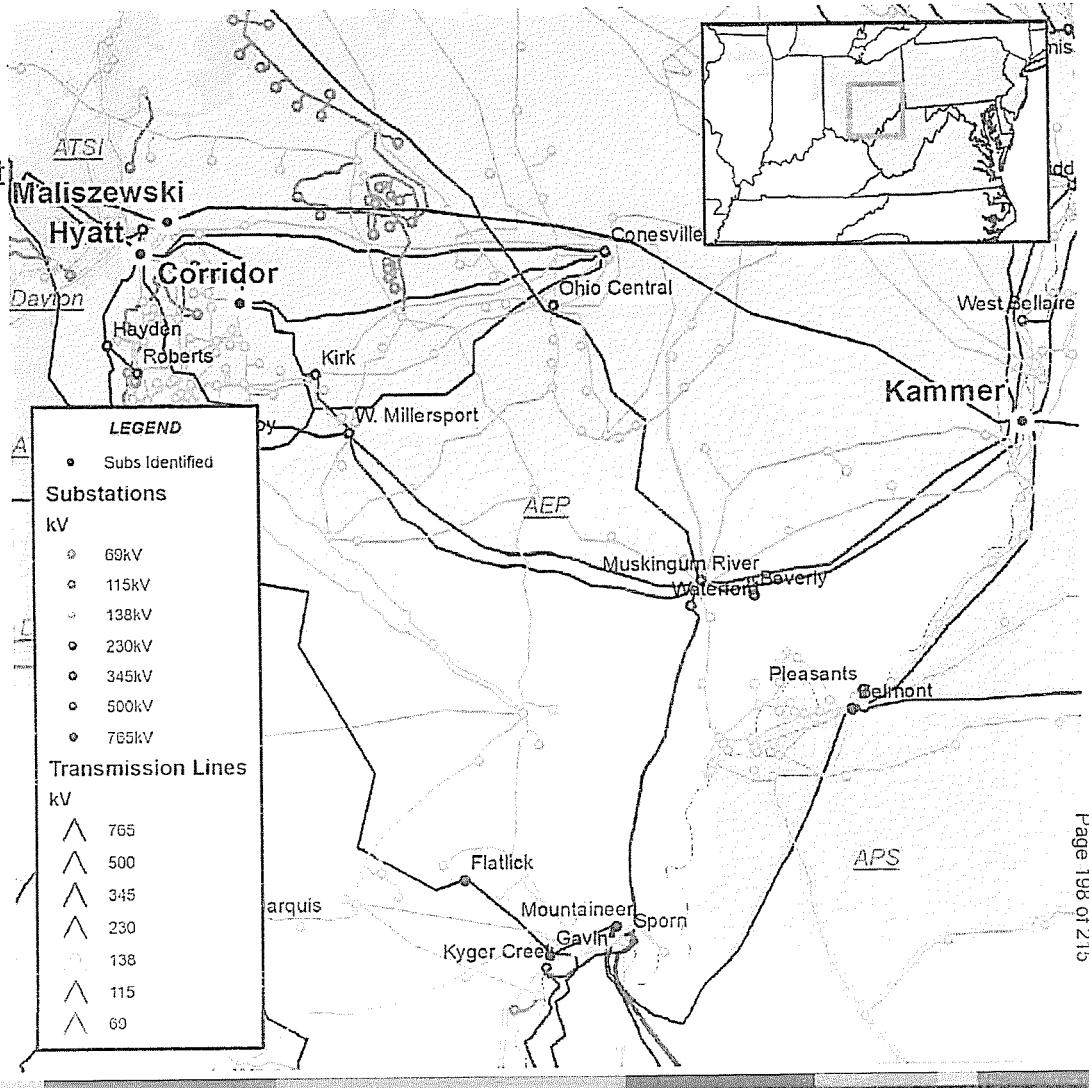
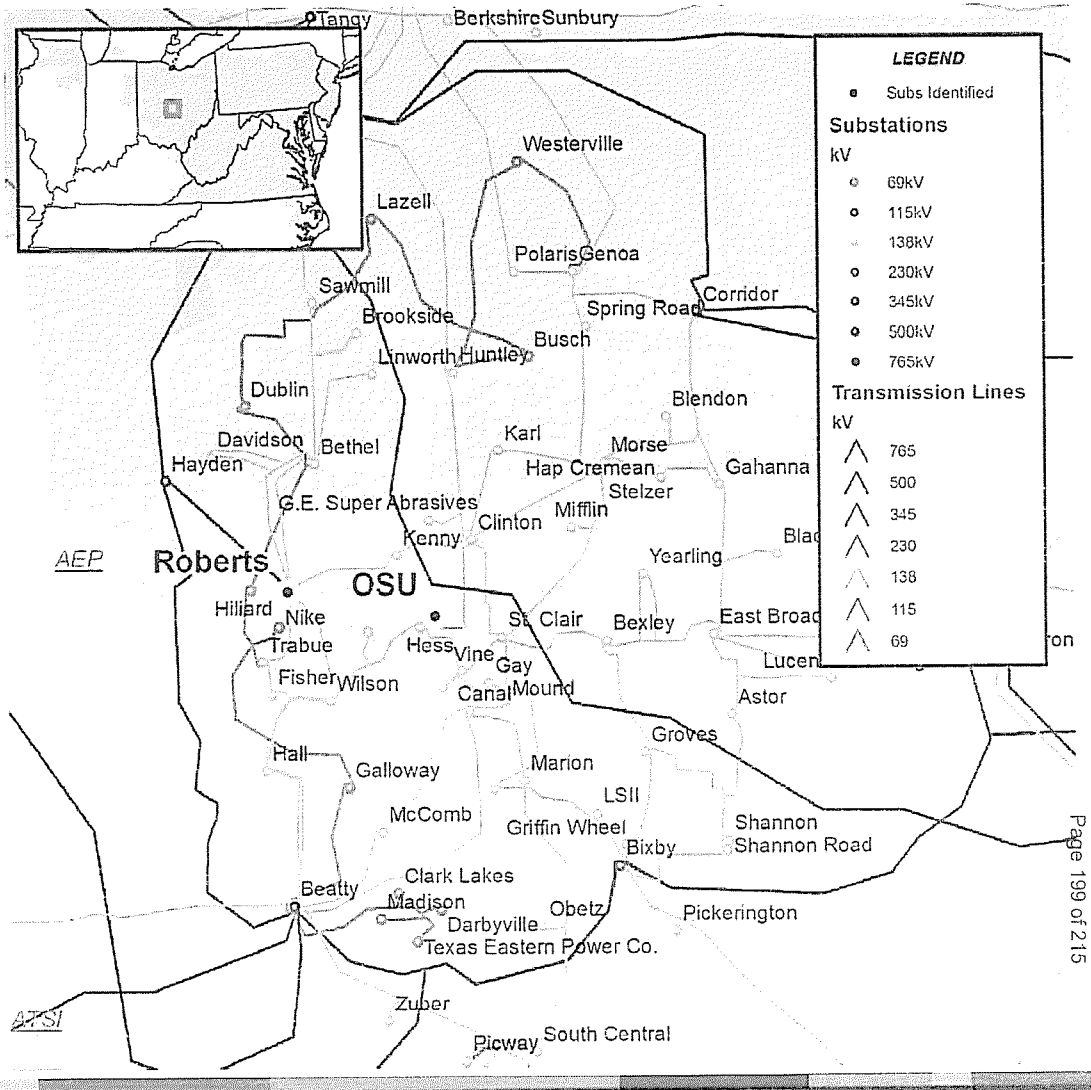
- This station will provide another EHV source to the area to mainly address potential voltage issues that have been demonstrated for specific outage and transfer scenarios. (S0251)
- Estimated Project Cost: $185 M
- Expected IS Date: 5/1/2014



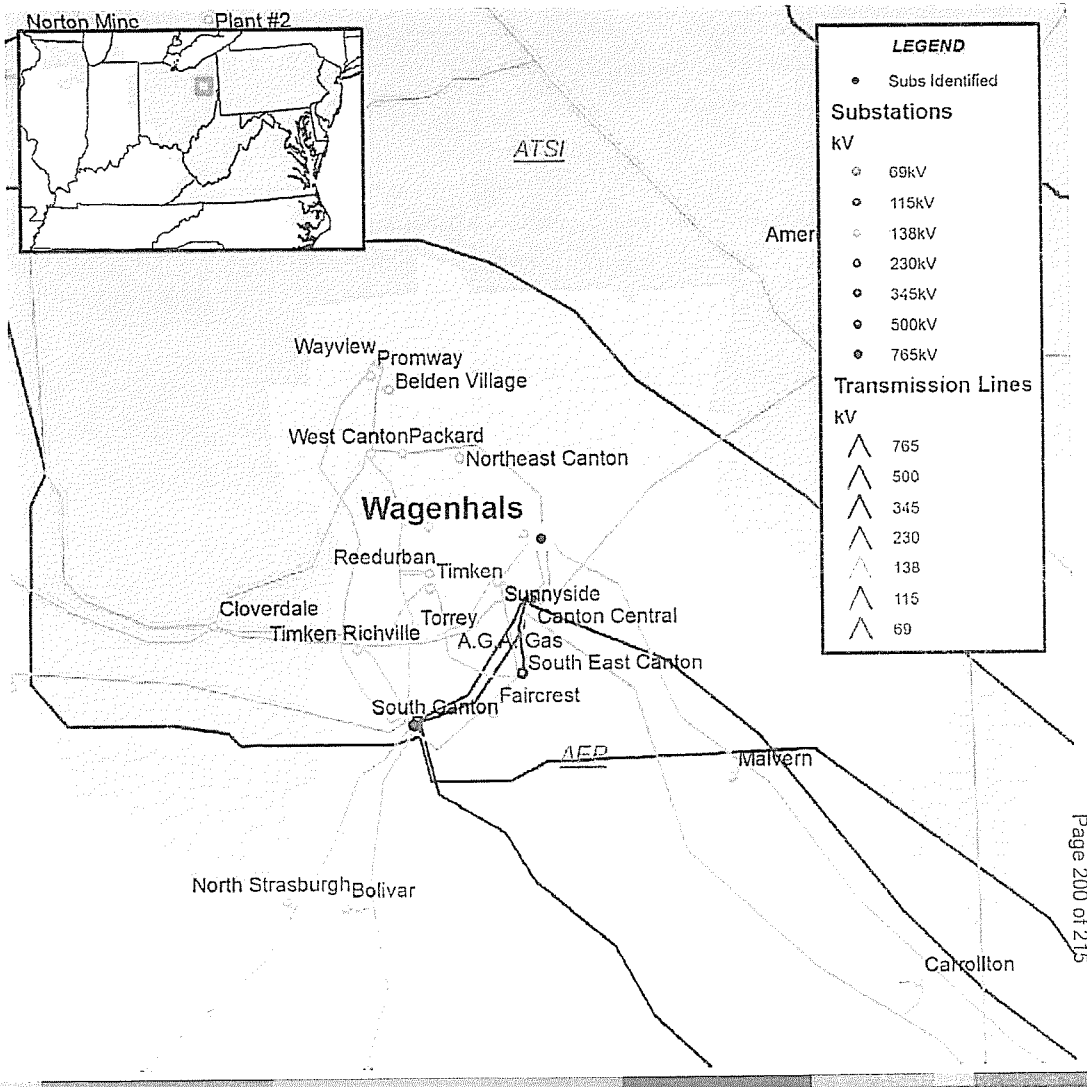
AEP Transmission Zone

- The Ohio State University requested 138 kV service to a new station (West Campus) to bolster the reliability of their existing electrical system, and support anticipated growth in the West Campus area. OSU plans to install two 84 MVA transformers at this station in 2012, with the potential of adding three more in future years. The Roberts – OSU underground 138 kV Line (presently approved, power sited and in the ROW acquisition stage) will be routed into West Campus Station (includes an AEP 138 kV ring bus). (S0252)
- Estimated Project Cost: $8.309 M
- Projected IS Date: 9/1/2011



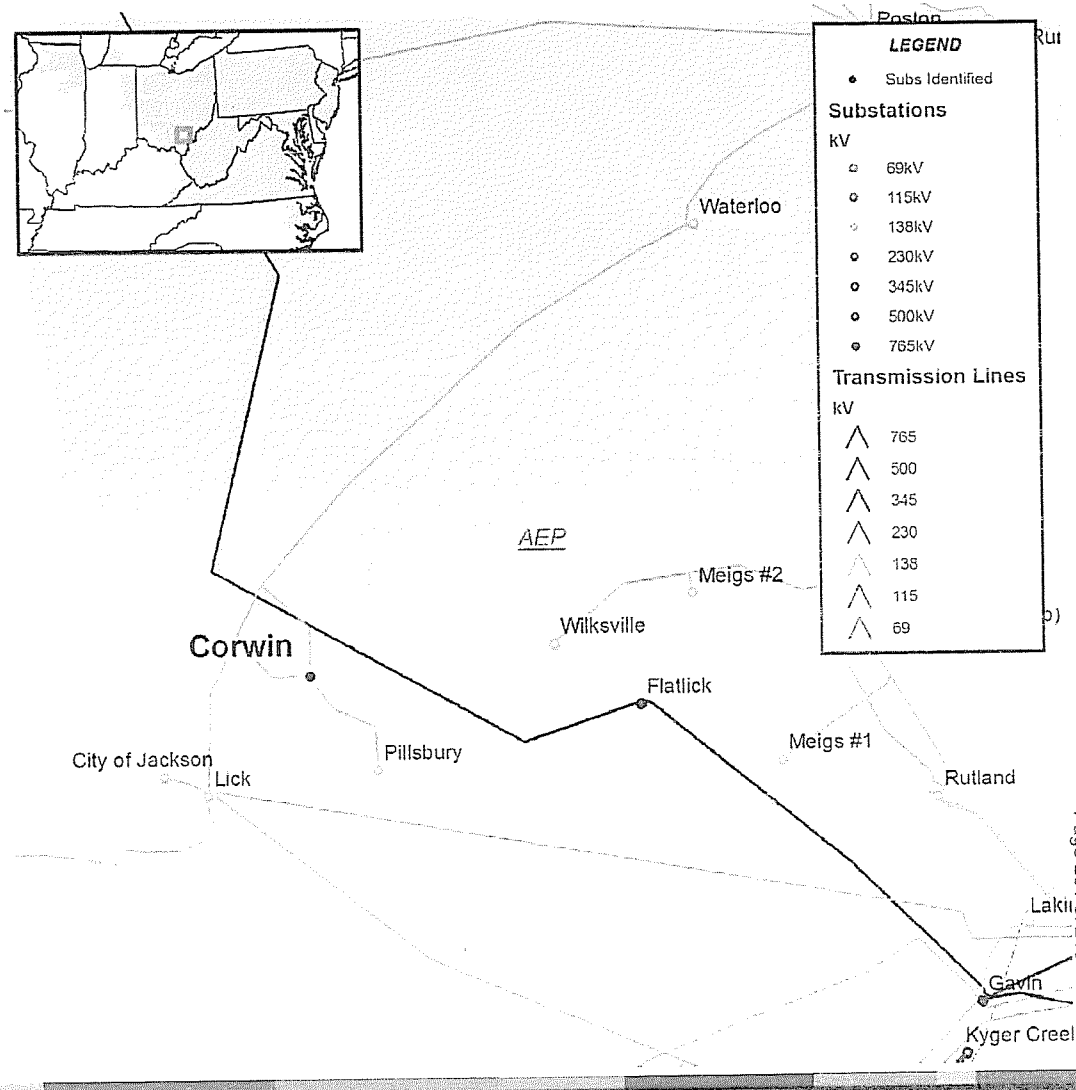
AEP Transmission Zone

- A load customber has requested 69 kV service to a facility in the Minerva, Ohio vicinity
- The service can be provided by tapping the Wagenhals-Pekin 69 kV circuit. (S0253)
- Estimated Project Cost: $0.464 M
- Projected IS Date: 3/1/2010



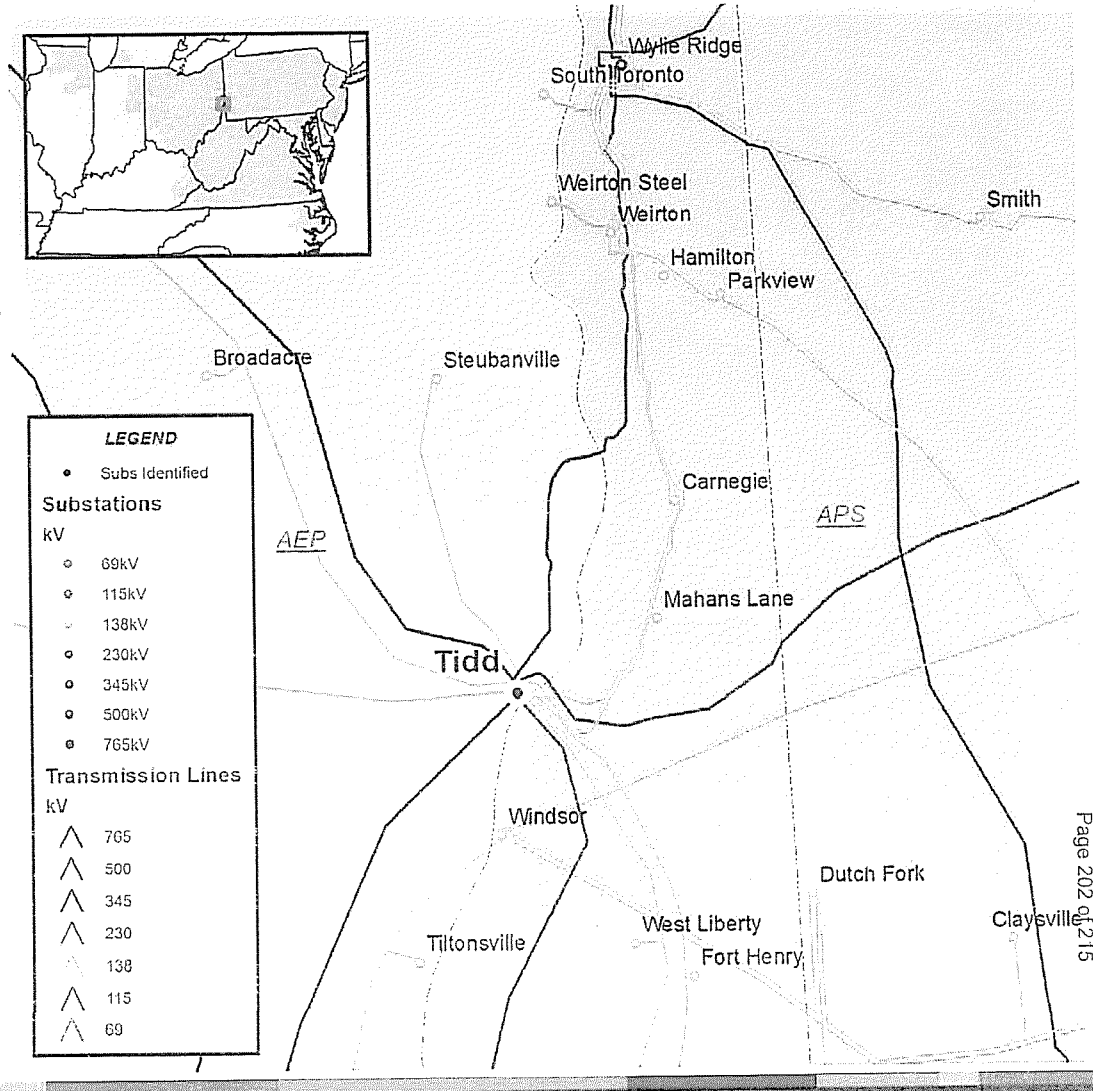
AEP Transmission Zone

- General Mills would like to increase the electrical service reliability of the current 138 kV feed from AEP's Corwin station to the General Mills processing facility (S0254)
- Estimated Project Cost: $0.437 M
- Projected IS Date: 10/1/2010



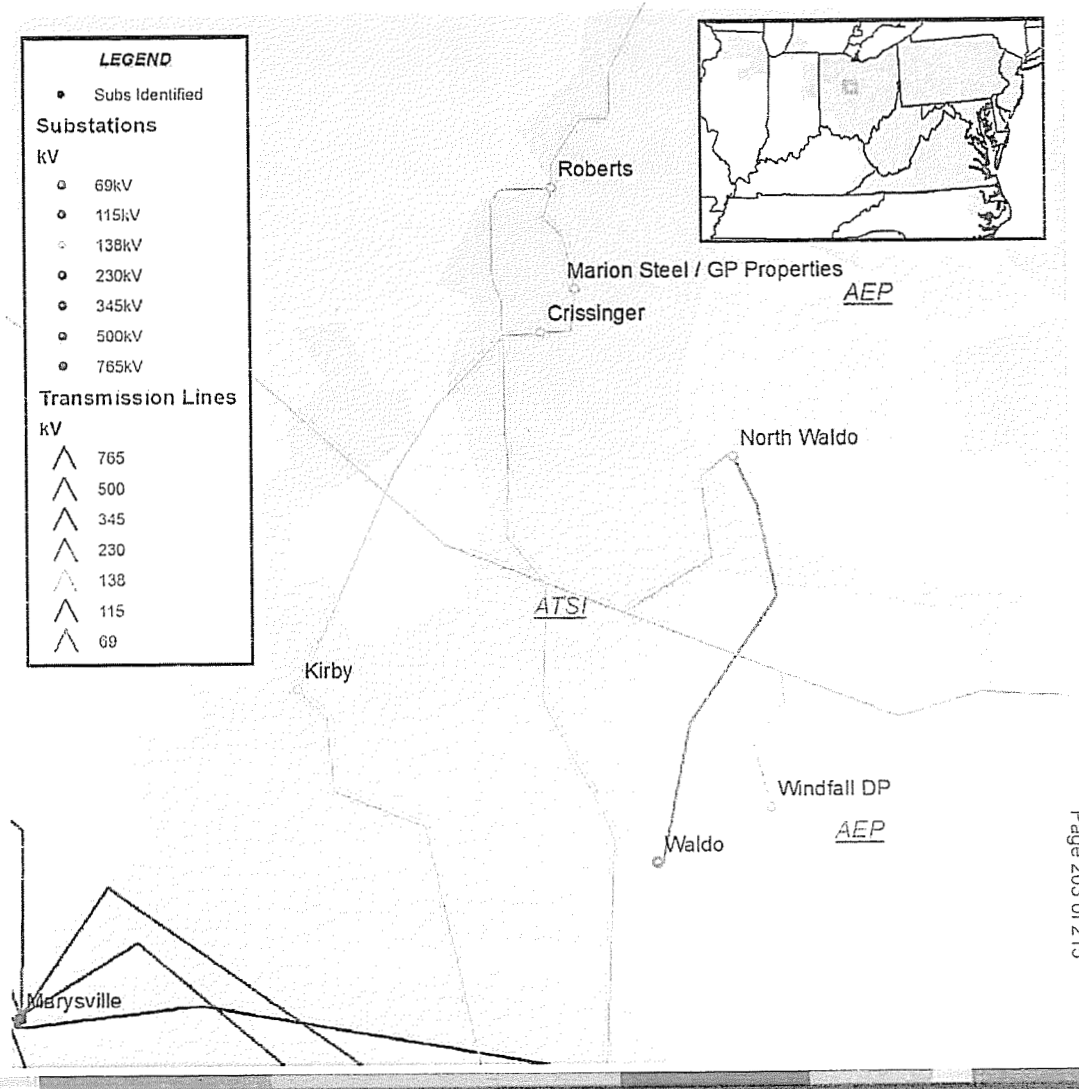
AEP Transmission Zone

- A load customer has requested 69 kV service to a new facility in the vicinity of Warwood, West Virginia.
- The service can be provided by tapping the Tidd - Fulton 69 kV circuit and building 2.5 miles of 69 kV line from tap point to their facility. (S0255)
- Estimated Project Cost: $1.773 M
- Projected IS Date: 7/1/2010



AEP Transmission Zone

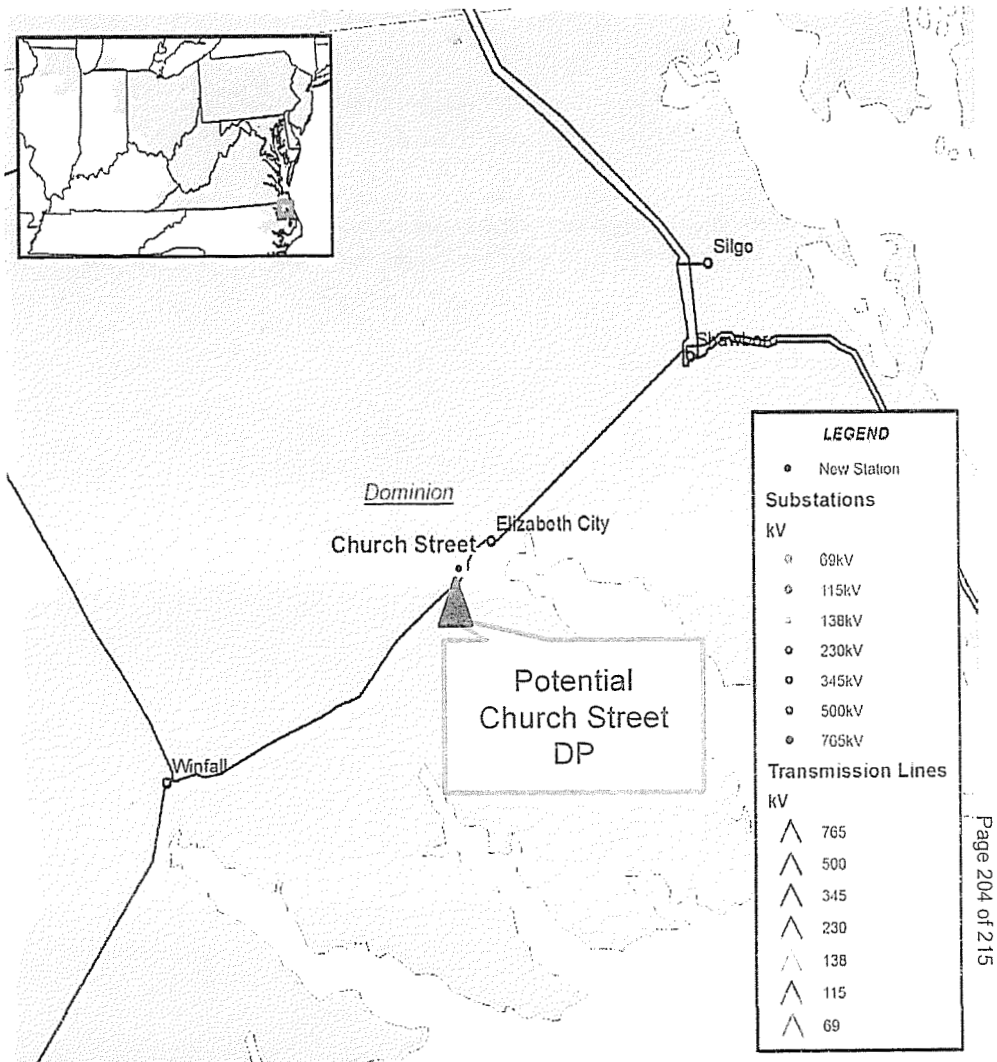
- Mid-Ohio Energy Cooperative's Uncapher station, near Marion, OH, is currently served by Ohio Edison at 34.5 kV. Mid-Ohio plans to upgrade Uncapher to 69 kV and is requesting service from the Harpster Pumping - Waldo 69 kV line. This project will build approximately 0.5 mile double circuit line, install a 3-way GOAB switch, and install low-side metering in Mid-Ohio's Uncapher station. (S0256)
- Estimated Project Cost: $0.633 M
- Projected IS Date: 3/1/2011



Dominion Transmission Zone

New Delivery Point

- North Carolina Eastern Municipal Power Agency (NCEMPA) has requested a new 230 kV delivery point on behalf of the Town of Elizabeth City to provide increased capacity for future growth. This will require a tap from Line #2020 (Elizabeth City – Winfall) and installation of two 230 kV line switches. Estimated load 30 MW
- Estimated Project Cost: $0.5 M
- Projected IS Date: Sept 2011



Dominion Transmission Zone

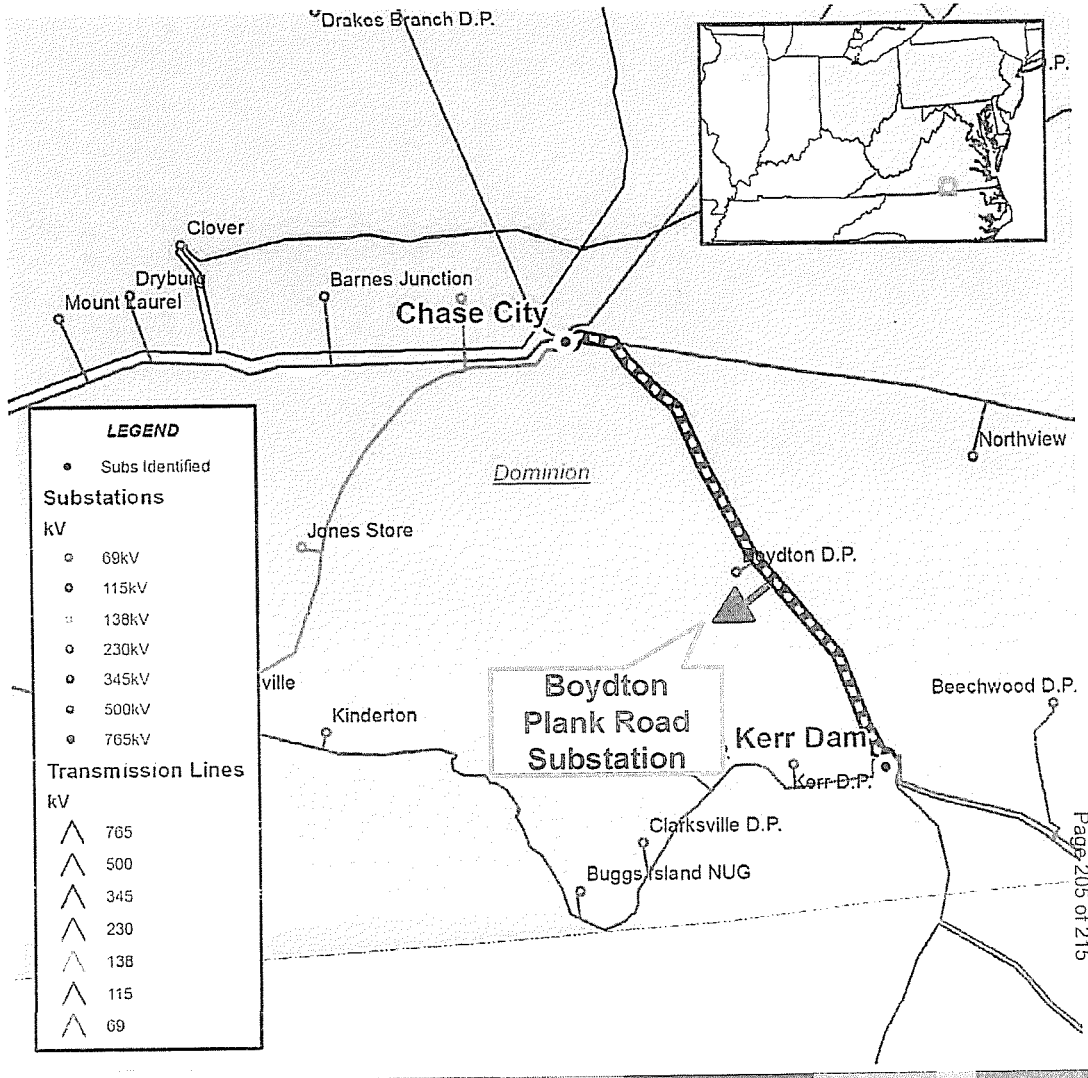
New Delivery Point

Microsoft is building their east coast data center in Boydton Plank Road Industrial Park in Mecklenburg County, VA, estimated load is 50 +MW.

Phase 1: Split 115kV Line 38 (Chase City – Kerr Dam) and build double circuit tap 1.5 miles (new ROW) to BPRI Park. Build substation in BPRI Park with 115kV four breaker ring bus (April 2011)

Estimated Project Cost: $15.6 M

Projected IS Date: April 2011



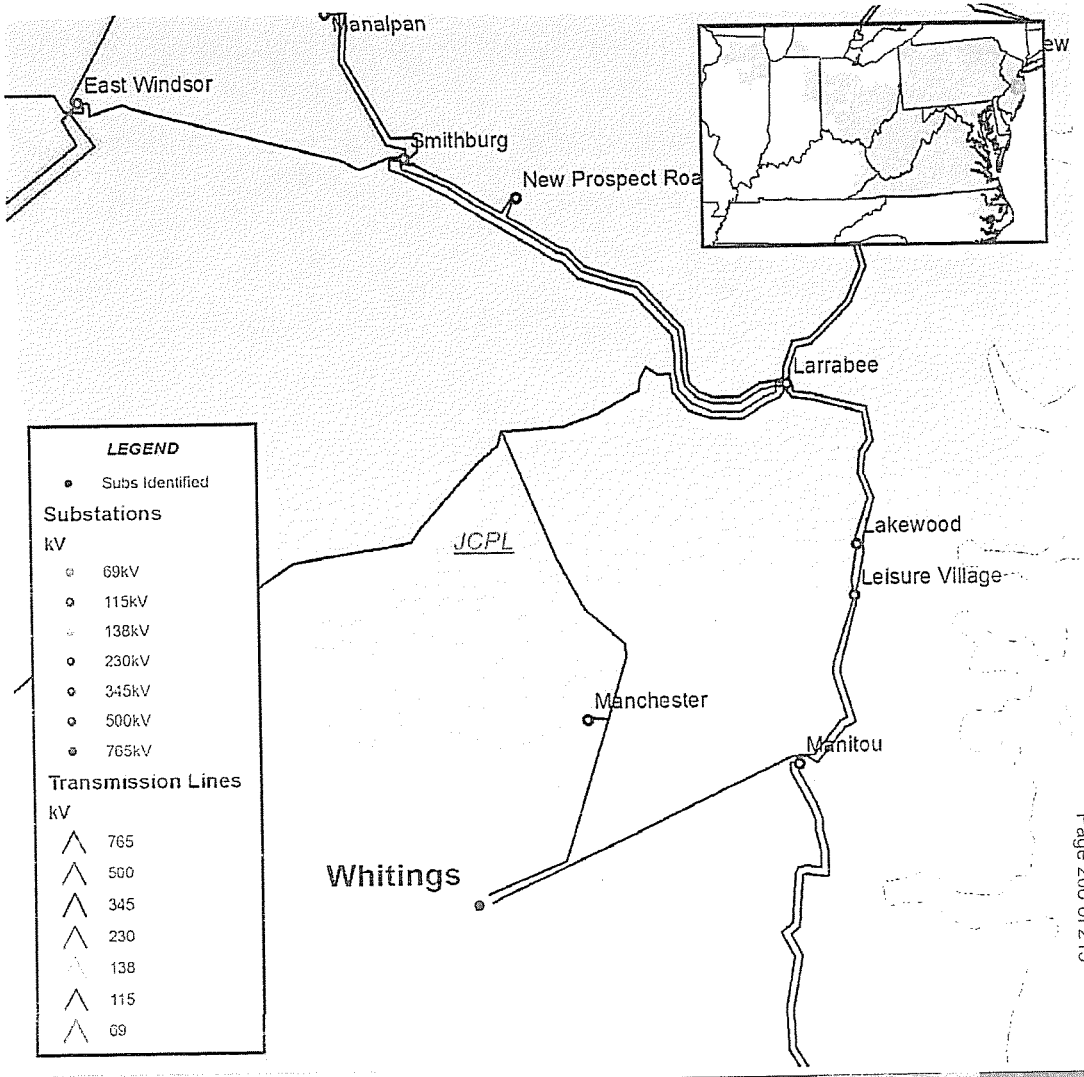
JCPL Transmission Zone

- FE planning criteria violation (non-Tariff facility):
- Low voltage at Upton 34.5 kV station for the loss of Whiting – Upton 34.5 kV (K11) line.
- Proposed Solution:

  New Lisbon three breaker 34.5 kV straight bus upgrade (S0246)
- Estimated Project Cost:

  $1.158 M
- Expected IS Date:

  6/1/2012



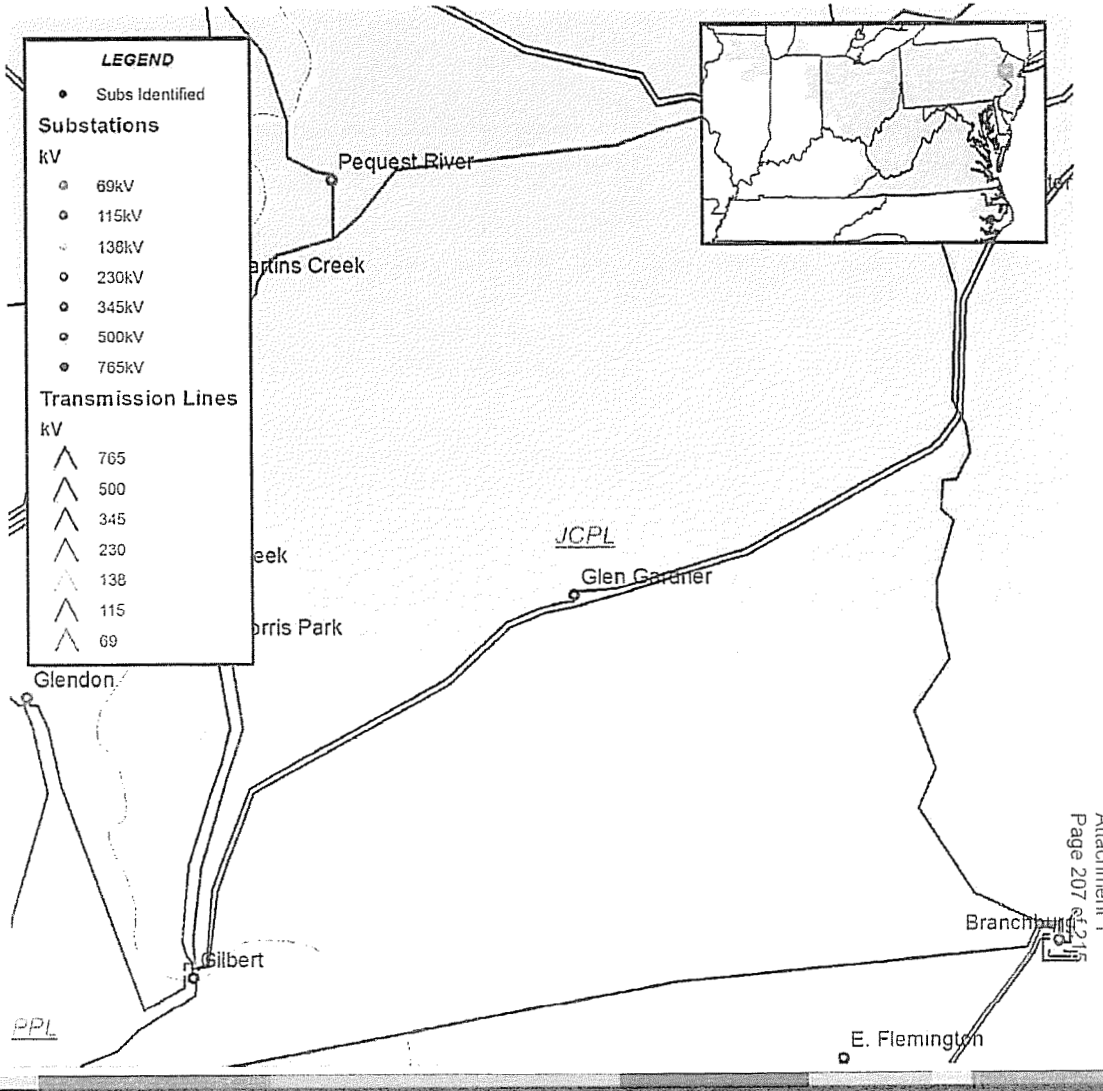
JCPL Transmission Zone

- FE planning criteria violation (non-Tariff facility):
- Low voltage at the Merck bus for the loss of the Lebanon – Merck 34.5 kV (W751) line
- Proposed Solution:

  Relocate the Merck 6.6 MVAR capacitor (S0247)
- Estimated Project Cost:

  $0.051 M
- Expected IS Date:

  6/1/2011



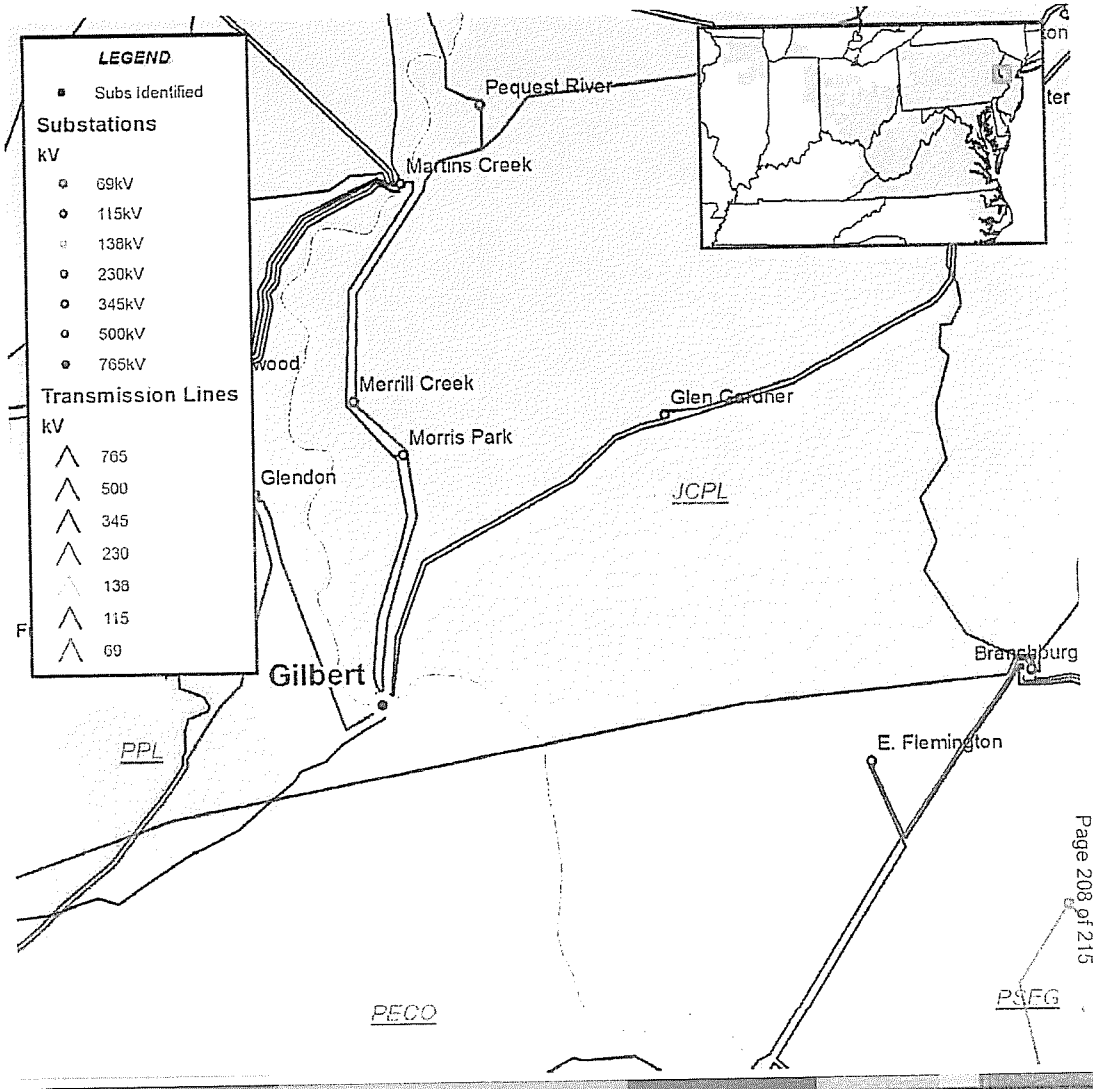
JCPL Transmission Zone

- FE planning criteria violation (non-Tariff facility):
- Overload on the Gilbert – Bridgeton 34.5 kV (J712) line for the loss of Branchburg – East Flemington 230 kV line and East Flemington 230/34.5 kV transformer # 4
- Proposed Solution:

  Upgrade the bus conductor at Bridgeton 34.5 kV substation with 795 ACSR on the Gilbert – Bridgeton 34.5 kV (J712) line (S0249)
- Estimated Project Cost:

  $0.031 M
- Expected IS Date:

  6/1/2011



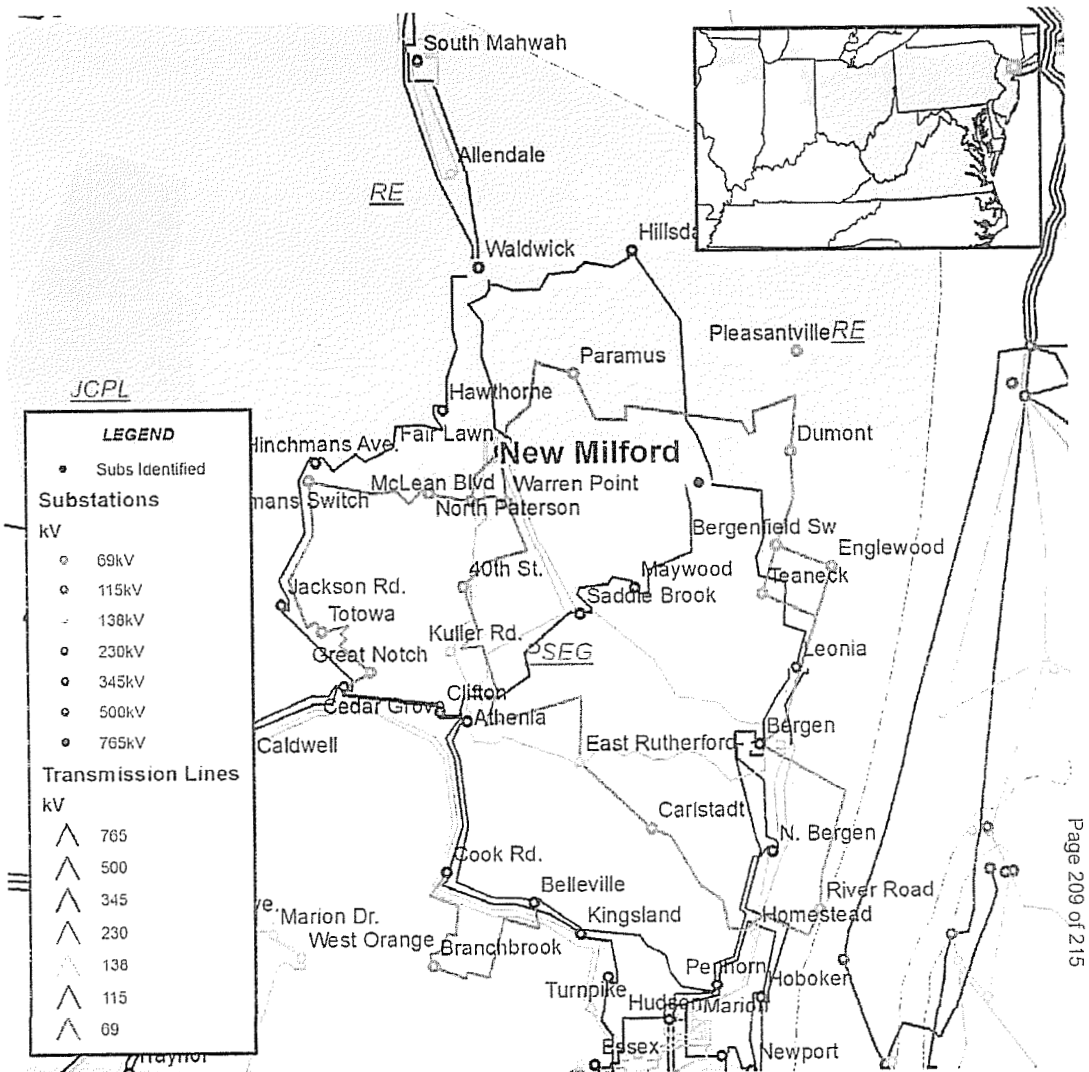
PSEG Transmission Zone

- PSEG Operational:
- The New Milford 230 kV substation was flooded recently and as a result the substation was closed down.
- Proposed Solution:

  Raise the New Milford yard and control house (S0249).
- Estimated Project Cost:

  $70M
- Expected IS Date:

  6/1/2015



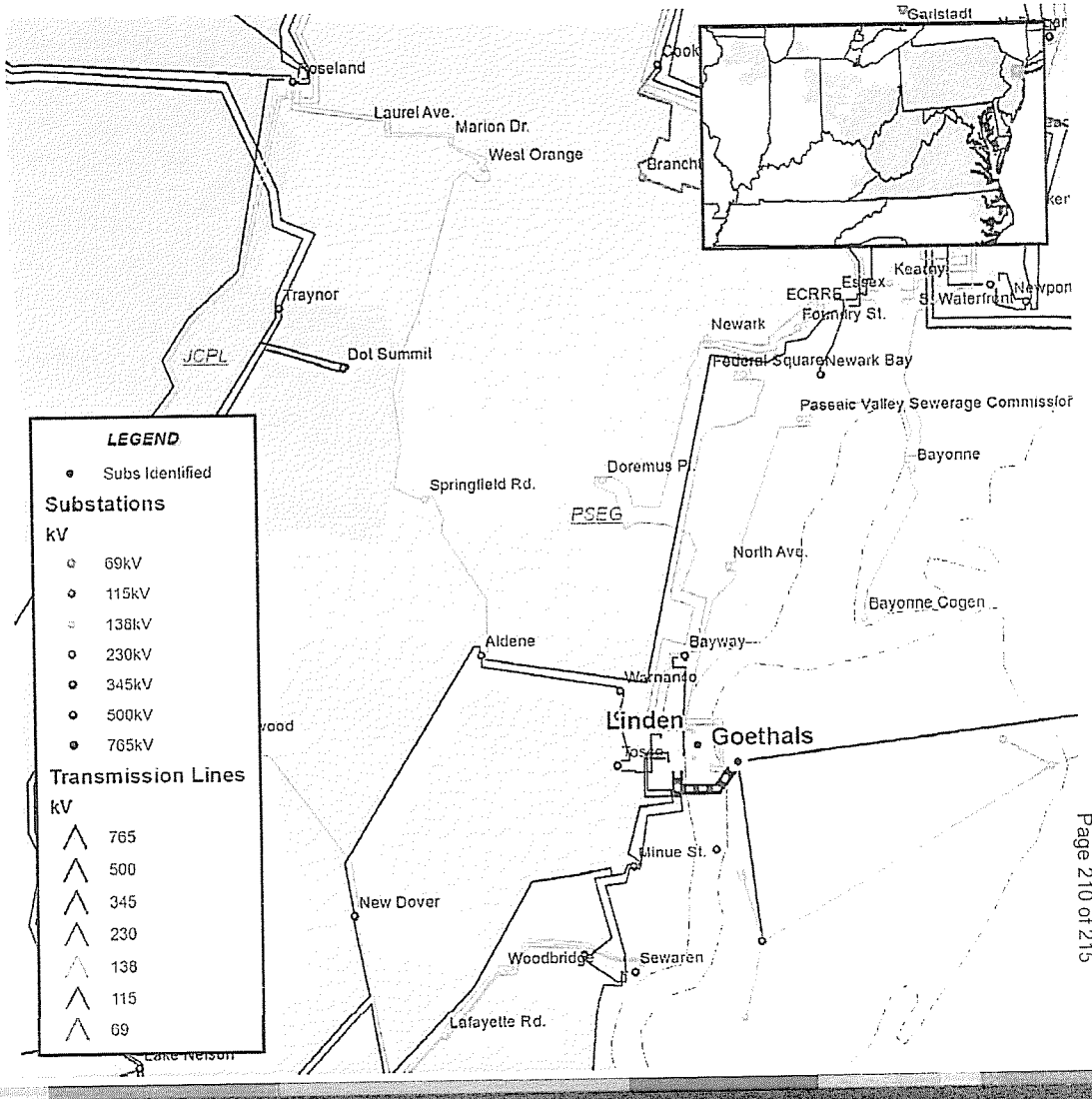
PSEG Transmission Zone

- PSEG Operational:
- The existing Linden 230 kV substation is a breaker and half configuration, however the Linden – Gaethals 230 kV circuit is connected to a bay with no breaker on one side. The circuit also doesn't have line disconnect switch and therefore, the bus has to be removed in order to take the line out of service.
- Proposed Solution:

  Relocate the Linden – Goethals 230 kV circuit to the existing vacant bay at Linden (S243).
- Estimated Project Cost:

  $1.5M
- Expected IS Date:

  6/1/2013



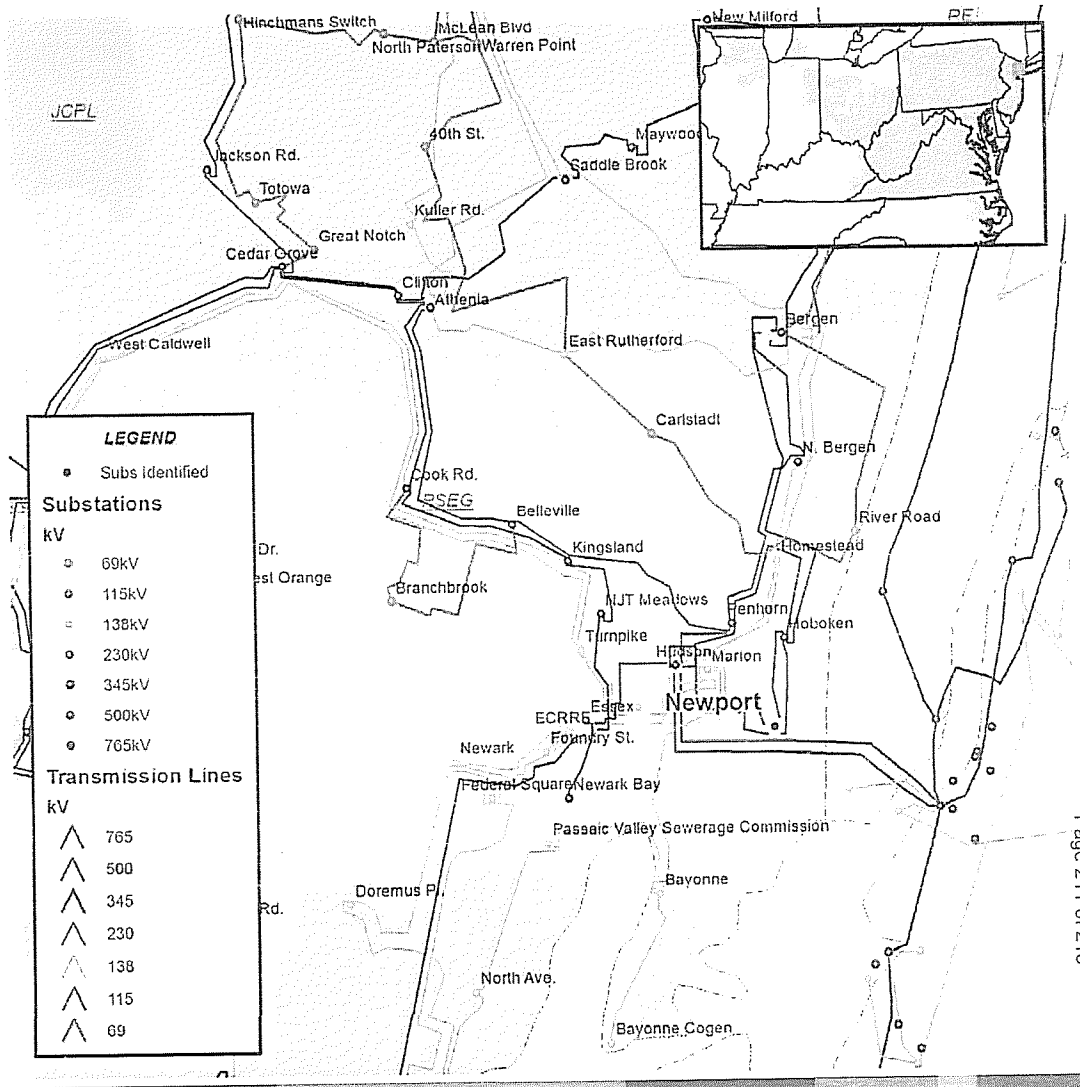
PSEG Transmission Zone

- PSEG Operational:
- Bus faults at Newport 230 kV removes multiple circuits resulting in circuit switch mis-operation and mis-alignment of disconnect switches.
- Proposed Solution:

  Reconfigure the Newport substation to breaker and half scheme (S0244).
- Estimated Project Cost:

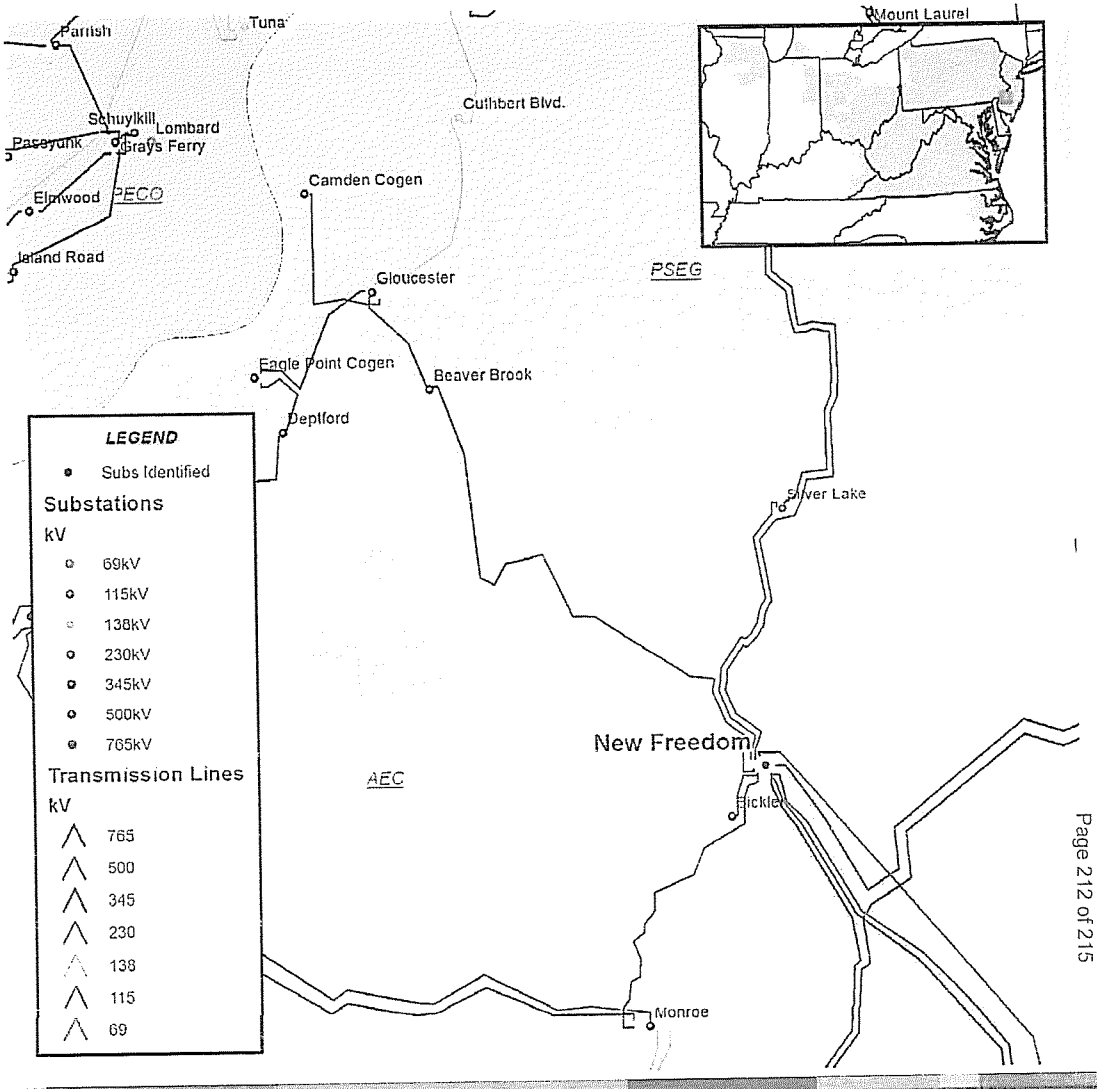
  $20M
- Expected IS Date:

  6/1/2011



PSEG Transmission Zone

- PSEG Operational & Maintenance:
- The two 230 kV PARs at New Freedom are rarely utilized and therefore provide limited benefit. In addition movement of the taps on those PARs causes gassing.
- Proposed Solution:
  Remove the two New Freedom PARs (S0245).
- Estimated Project Cost:
  $2.0M
- Expected IS Date:
  6/1/2012



Email RTEP@pjm.com with any comments

Next Steps

Review Issues Tracking

Kentucky Power Company

REQUEST

Produce a copy of any assessment or study prepared or reviewed by or for the Company that examines the impact that retirement of Big Sandy Unit 1, Big Sandy Unit 2, or both units would have on capacity adequacy, transmission grid stability, transmission grid support, voltage support, or transmission system reliability.

RESPONSE

See the response to Sierra Club 2-40.

WITNESS: Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Produce a copy of any assessment or study prepared or reviewed by or for the Company that evaluates what, if any, transmission grid upgrades would be necessary to allow for the retirement of Big Sandy Unit 1, Big Sandy Unit 2, or both units.

RESPONSE

See the response to Sierra Club 2-40.

WITNESS: Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Describe in detail the status of any communications with the PJM RTO with respect to the retirement or potential retirement of Big Sandy Unit 1, Big Sandy Unit 2, or both units. Produce any documents regarding or related to such communications, including any PJM analysis of the reliability impacts of such retirements or potential retirements.

RESPONSE

On December 22, 2011, PJM issued a voluntary request to generation owners in PJM asking for plans for retirement, or potential retirement, of units that are impacted by the EPA regulations on the Utility Mercury and Air Toxics Standards (MATS) and Cross-State Air Pollution Rule (CSAPR). PJM requested this information in order to determine the impact on reliability in the PJM footprint from the EPA regulations, and identify potential units that might require extensions for compliance under the EPA rules.

On January 31, 2012, AEP provided a response to PJM that included possible options for upcoming operations of Big Sandy 1 & 2. AEP has not finalized the disposition of these assets. The Response is attached as Attachment 1.

The AEP-PJM Compliance Plan is attached as Attachment 2. Both Attachment 1 and Attachment 2 contain highly-sensitive market data and are the subject of the accompanying Petition for Confidential Treatment.

WITNESS: Scott C Weaver

Pages 345-353 have been removed due to confidentiality

Kentucky Power Company

REQUEST

Refer to Weaver testimony at pp. 11-12. For each of the four options identified therein, identify the resulting rate base, total revenue, and return on equity for the Company.

RESPONSE

For the option 1, please see the Company's response to AG 1-28, Attachment 1, page 2 of 15. The Company did not prepare any such exhibits for the other three options.

WITNESS: Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to Weaver testimony at pp. 11-12. Produce a copy of any assessment or evaluation of the impact of any or all of the options identified therein on KPC's rate base, revenue, or return on equity.

RESPONSE

There were no assessments or evaluations conducted on the impact of any of the options to the Company's rate base, revenue, or return on equity.

WITNESS: Ranie K Wohnhas

Kentucky Power Company

REQUEST

Refer to Weaver testimony at pp. 11-12 and Wohnhas page 6. For each of the four options identified by Mr. Weaver:

a. Indicate the portion of annual revenue requirement that the Company proposes, or would propose, to recover through its environmental surcharge and the portion it proposes, or would propose, to recover through base rates and through its fuel cost rate adjustment respectively

b. Provide the rationale for the proposed cost recovery rate mechanisms for each option.

RESPONSE

a-b. For option 1, 100% would be collected either through the environmental surcharge or through base rates dependent upon the timing of a base rate case. If there is a need to file for a base rate change at the time the DFGD is placed in service, then the Company would file for the costs of the DFGD to be recovered through base rates. If there is no need for a base rate change at the time the DFGD is placed in service, then the Company would flow the DFGD cost through the environmental surcharge. Under Options 2 through 4 all costs would be recovered through base rates. The environmental surcharge is only applicable to costs associated with coal. There would be no costs recovered through the Company's fuel adjustment clause for any of the options.

WITNESS: Ranie K. Wohnhas

Kentucky Power Company

REQUEST

Refer to the testimony of Wohnhas at pages 14-15 and to the Company's response to Sierra Club initial data request 17. Identify the sources of capacity and energy that the Company would use to replace Big Sandy Unit 2 if that unit were retired in 2030.

RESPONSE

The Company has not identified any specific sources of capacity and/or energy that would be used to replace Big Sandy Unit 2 if it were retired in 2030.

WITNESS: Ranie K. Wohnhas