Application for a Construction Certificate to Construct a Merchant Electric Generating Facility

Kentucky Mountain Power Site

Prepared by: Kentucky Mountain Power, LLC
May 31, 2002

Kentucky Mountain POWER
NEW ENERGY FOR EASTERN KENTUCKY

May 31, 2002

Mr Martin Huelsmann, Chairman
Kentucky State Board on Electric
Generation and Transmission Siting
211 Sower Boulevard
P O Box 615
Frankfort, Kentucky 40612

Re Case No 2002-00149
Kentucky Mountain Power, LLC
Merchant Power Plant Application

Dear Mr Huelsmann

According to statutory authority SB 257 and 807 KAR 5 110E, Kentucky Mountain Power, LLC is seeking to obtain a certificate to construct a nominal 520 megawatt combination coal and waste coal fired electrical generation facility in Knott County near Talcum

If any questions arise, please contact Mr Randy Bird at (606) 434-0329

Sincerely,

Frank L Rotondi
President and CEO

h \bird\corr 02\mhuelsmann 5 31

2810 Lexington Financial Center • Lexington, KY 40507
Phone (859) 389-8070 • Fax (859) 389-9980

TABLE OF CONTENTS

TABLE OF CONTENTS

Kentucky Mountain POWER

May 17, 2002

Kentucky State Siting Board on Electric Generation and Transmission Siting
211 Sower Boulevard
P O Box 615
Frankfort, Kentucky 40612

RE Revision to, Notice of Intent to File for a Merchant Power Plant Construction Certificate

This revised notice of intent to file is submitted by

Kentucky Mountain Power, LLC
250 Main Street
Lexington, KY 40507

Frank Rotondi, CEO
859-389-8070

Description

Kentucky Mountain Power, LLC intends to construct its nominal 520 megawatt coal fired electrical generating facility in Knott County, 13 miles NE of Hazard and approximately 2 miles North of Highway 80 The power plant will be located on a 195 acre knob known as "Potato Knob" and the facility will include an ash landfill approximately 1 mile South of the plant site on about 550 acres of mined out property leased from Appalachian Realty Company, and will convert an existing coal refuse impoundment into a freshwater reservoir on approximately 125 acres of leased property located 1 ½ miles Southwest of the plant site The power plant will draw water from the North Fork of the Kentucky River through a pipeline to be constructed and will connect to AEP's electrical grid at the Hazard and Beaver Creek substations via new transmission lines to be owned by AEP

Location and Setbacks

The plant site is located at 37°25'21"N and 83°06'52" W This location is within the unincorporated area of Knott County The power plant facility will be located in Knott County There is no applicable Planning and Zoning Commission with jurisdiction over this location

The plant location is well beyond the distances for setback required under KRS 278 The plant will be located over 1000 feet from the property lines There are no residential neighborhoods, schools, hospitals or nursing facilities within 2000 feet of this location

Kentucky Mountain POWER

April 25, 2002

Kentucky State Siting Board on Electric Generation and Transmission Siting
211 Sower Boulevard
P O Box 615
Frankfort, Kentucky 40612

RE Notice of Intent to File for a Merchant Power Plant Construction Certificate

This notice of intent to file is submitted by

Kentucky Mountain Power, LLC
250 Main Street
Lexington, KY 40507

Frank Rotondi, CEO
859-389-8070

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Location and Setbacks

The plant site is located at 37°25'21"N and 83°06'52" W This location is within the unincorporated area of Knott County Portions of the systems supporting the facility will be located in Breathitt, Perry and Floyd counties There is no applicable Planning and Zoning Commission with jurisdiction over these locations

The plant location is well beyond the distances for setback required under KRS 278 The plant will be located over 1000 feet from the property lines There are no residential neighborhoods, schools, hospitals or nursing facilities within 2000 feet of this location

THE TROUBLESOME CREEK TIMES

2001 omitted, 2000 additional tax bills are past due. The total amount due is the last amount shown above. Also, there will be a $5.00 sheriff fee and advertising fee of $3.00 added to your bill. If you have paid, please disregard this notice. If this bill is not paid it will be advertised as such in the Troublesome Creek Times June 5th for three consecutive weeks. Unpaid bills will be offered for sell on the courthouse steps on June 28th at 10:00a.m. Please take care of this matter to avoid further costs and penalties.

The bill may be paid to Knott County Sheriff, Wheeler Jacobs
156 W. Main, Courthouse
P.O. Box 1170
Hindman, KY 41822

This letter is required by The Department of Property Taxation.

364 5/1 1tb

NOTICE TO TAXPAYERS

The 1995, 1996, 1997, 1998, 1999, 2001 Omitted UMC & 2000 Additional taxes are now delinquent, starting May 2002 a $5.00 sheriff's fee will be charged on your bill. Please give your immediate attention to this matter. Payments can be made to The Knott County Sheriff's Office either in person or by mailing the payment in check or money order. Knott County Sheriff's Office P.O. Box 1170 Hindman, Ky 41822, 606-785-5354.

365:5/1 1t·b

PUBLIC NOTICE

Regarding
STATEMENT OF ACTIVITIES

Leslie, Knott, Letcher, Perry Community Action Council, Inc. is presenting an application for the Rural Economic and Community Development Services for a Housing Preservation Grant. A statement of planned activities is available for public review and comment at L.K.L.P. offices until May 20, 2002. Call Annie Thompson (606) 642-3332 for more information. L.K.L.P. is an Equal Opportunity Housing Service Provider.

358 5/1 2t.b

EQUAL HOUSING OPPORTUNITY

PUBLIC NOTICE

The Alamander Martin heirs will meet on May 4, 2002, at 10:00 a.m. in the Knott County Courthouse Hindman, Ky. Our attorney, Eric Wrage, will discuss the current status of the estate. For more information call Kathleen Martin Elmore, 483 Blackgate Circle, Cross Hill, SC 29332, 864-998-4329.

347 5/1 1t pd

KENTUCKY MOUNTAIN POWER

EnviroPower, LLC intends to construct its nominal 520 megawatt coal fired electrical generating facility in Knott County, 13 miles NE Of Hazard and approximately 2 miles North of Highway 80. The power plant will be located on a 195 acre knob known as "Potato Knob" and the facility will include an ash landfill approximately 1 mile South of the plant site on about 550 acres of mined out property leased from Appalachian Realty Company, and will convert an existing coal refuse impoundment into a freshwater reservoir on approximately 125 acres of leased property located 1 /2 miles Southwest of the plant site. The power plant will draw water from the North Fork of the Kentucky River through a pipeline to be constructed and will connect to AEP's electrical grid at the Hazard and Beaver Creek substations. The proposed construction of the power plant is subject to approval by the Kentucky State Board on Electric Generation and Transmission Siting, which can be reached through the Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40601, (502) 564-3940.

350 5/1 1t b

PUBLIC NOTICE

A public hearing for the 2002-2003 annual budget for the City of Hindman will be held at City Hall on Monday, May 6, 2002 at 6:30 p.m. The City currently has approximately $162,000 in carry-over funds from fiscal year 2002 and will be receiving approximately $262,255.00 during fiscal year 2003 for a total of $424,255.00. Water and Sewer Fund currently has approximately $165,000.00 in carry-over funds from fiscal year 2002 and will be receiving approximately $408,000.00 during fiscal year 2003 for a total of $573,000.00.

All interested persons and organizations in Hindman are invited to the public hearing to submit oral and written comments on the possible uses as contained in the proposed budget in total.

Any person(s) (especially senior citizens) who cannot attend the hearing should call City Hall at 785-5544 so that arrangements can be made to secure their comments. Handicapped individuals wishing to attend the hearing should call City Hall by the appropriate date if special arrangements are necessary.

354 5/1 1t·b

NOTICE OF COURT HEARING

In Re: The Estate of
Alamander Martin
Knott County District Court
Case No. 98-P-Front

To all Heirs-at-Law, known and

should submit the following materials and descriptions of qualifications.

A Request for Bid, General Conditions, and Selection Process is available upon request.

Interested installers should contact Kentucky River ADD at 917 Perry Park Road, Hazard, KY 41701,(606) 436-3158 until Friday May 10, 2002 at 4.30 p.m. Faxed or e-mail proposals will not be accepted.

The sealed bids will be opened at the KRADD office on Monday May 13, 2002 at 8:30 a.m.

A selection committee will review, evaluate, and rate each bid based on their submitted Bid. The Kentucky River ADD will contact the installer with the winning bid and enter into negotiations. If the parties are unable to negotiate a satisfactory agreement, the second ranked installer will be contacted. Once an installer has been selected, all unsuccessful installers will be promptly notified. The selection committee will adhere to the provision of Tide VII of the Civil Rights Act of 1964, Section 3. No person shall be excluded from participation in, denied benefits of, or subjected to discrimination in the implementation of this program on the grounds of race, color, national origin or sex. Females and minorities are encouraged to apply.

The National Oceanic and Atmospheric Administration provides funding for this project. The formal solicitation of seeking qualified installers is being conducted to fulfill the requirements of the funding agency.

357:5/1.1t.b

NOTICE OF INTENT TO PERFORM CONSTRUCTION ACTIVITIES

Leslie, Knott, Letcher, Perry Community Action Council, Inc. has received funding from Kentucky Housing Corporation through the HOME program and other funding sources through Kentucky Housing Corporation to perform construction on new homes in Leslie County for families whose incomes are at or below 80% of the area median income of Leslie County. In compliance with the HUD HOME guidelines LKLP announces it will be purchasing construction materials to perform these construction activities. LKLP will also be contracting the following activities: heating/air condition, plumbing, electrical, drywall, and septic systems. In addition to building materials, LKLP will be purchasing concrete and gravel.

Minority owned and female owned businesses are encouraged to participate.

If you are interested in bidding on materials or performing contract services, please contact LKLP bidding information or supply written responses on your company letterhead outlining the services or materials you have to offer. If you have worked

THE JACKSON TIMES

NOTICE OF INTENTION TO MINE - SURFACE MINE AMENDMENT
Pursuant to Application Number 897-0434 Amendment 1

In accordance with of KRS 350.070, notice is hereby given that Mimephan Mining, LLC, 111 Bradshaw Hills, McKee, Kentucky 40447 has applied for an amendment to an existing surface coal mining and reclamation operation located 2 70 miles southeast of Crocketsville in Perry & Breathitt counties. The amendment will add 130.71 acres of surface disturbance and 89 18 acres of auger mining which will completely underlie permitted surface acreage, making a total area of 200.72 acres within the amended permit boundary

The proposed amendment area is approximately 2.70 miles southeast from Ky 28's junction with State Route 1110 and located 0.02 miles north of Cam Johnson Branch.

The proposed amendment is located on the Buckhorn U.S.G.S 7 1/2 minute quadrangle map. The surface area to be disturbed by the amendment is owned by C. Tzanetos, B J Johnson, Delbert Combs & R Amis. The operation will use the Contour, Area & Auger methods of surface mining.

The amendment application has been filed for public inspection at the Department for Surface Mining Reclamation and Enforcement's London Regional Office, State Office Building, 85 State Police Road, London, KY 40741 Written comments, objections, or requests for a permit conference must be filed with the Director, Division of Permits, #2 Hudson Hollow, U.S. 127 South, Frankfort, Kentucky 40601

This is the final advertisement of the application All comments, objections, or requests for a permit conference must be received within thirty (30) days of today's date

4-TES-5-1-TH

NOTICE OF INTENTION TO MINE PURSUANT TO APPLICATION NUMBER 813-0249
Major Revision #4

In accordance with the provisions of KRS 350.070, notice is hereby given that Addington Mining, Inc. Inc., 2000 Ashland Drive, Ashland, KY 41101 has applied for a major revision to an existing surface coal mining and reclamation operation located at Evanston in Breathitt and Magoffin Counties. The major revision will add 3.39 acres of surface disturbance and delete 0.97 acres of surface disturbance and add an additional 11 9 acres of auger area to the permit area The total revised permit boundary is 812.42 acres.

The proposed major revision area is approximately 0.50 miles Southeast from KY Route 542's Junction with Spring Fork Road and located 0.01 miles north of Quicksand Creek.

The proposed major revision is located on the Tiptop and David U S.G.S 7 1/2 minute quadrangle map. The surface area to be affected by the major revision is owned by Western Pocahontas Properties and M. Wireman et al. The major revision will underlie land owned by Western Pocahontas Properties and M. Wireman et al

The major revision proposes to change the current approved post-mining land use of forest to a pastureland post-mining land use.

The application has been filed for public inspection at the Department for Surface Mining and Enforcement's London Regional Office, Regional State Office Building, 85 State Police Road, London, KY 40741. Written comments, objections, or requests for permit conference must be filed with the Director, Division of Permits, #2 Hudson Hollow, U.S 127 South, Frankfort, Kentucky, 40601. This is the final advertisement of this application All comments, objections or requests for a permit conference must be received within thirty (30) days of today's date.

4-TES-5-2

NOTICE OF INTENTION TO MINE
Pursuant to Application Number 860-9005 - Renewal

In accordance with KRS 350.055, notice is hereby given that Star Fire Mining Company, 2000 Ashland Drive, Ashland, Kentucky 41101 has applied for renewal of a permit for a coal processing, refuse disposal operation affecting 590 64 acres located 2 30 miles northeast of Ary, Kentucky in Perry, Knott and Breathitt Counties

The operation is approximately 1.50 miles northeast from Lick Branch Road's junction with KY 1087 and located on Lick Branch of Balls Fork Creek.

The operation is located on the West & Noble U S G.S. 7 1/2 minute quadrangle maps The surface area is owned by Appalachian Realty Company, Daisy Smith, Lynn-Lee, Inc. and Vera Salyer.

The application has been filed for public inspection at the Department for Surface Mining Reclamation and Enforcement's London Regional Office, Regional State Office Building, 85 State Police Road, London, Kentucky 40741. Written comments, objections, or requests for a permit conference must be filed with the Director, Division of Permits, #2 Hudson Hollow, U.S 127 South, Frankfort, Kentucky 40601.

4-TES-5-16

PUBLIC NOTICE

The Breathitt County Fiscal Court will meet in Special Session on Thursday, May 2, 2002 at 12:00 noon regarding Emergency Budget Amendment and necessary paperwork for the Jefferson Hotel Project, approval of County Judge's staff and Commissioners salaries. 1 TES-5-2

"ATTACHMENT 3.1.A" NOTICE OF APPLICATION FOR RECLAMATION DEFERMENT DUE TO COAL MARKETING PROBLEMS

In accordance with 405 KAR 16:020, notice if hereby given that Leslie Resources, Inc., 2000 Ashland Drive, Ashland, Kentucky 41101, has applied for a coal marketing reclamation deferment for its surface coal mining and reclamation operation, permit number 897-0384. Deferment of reclamation is being requested for approximately 29.39 acres. The operation for which the reclamation deferment is requested is located 1.50 miles southwest of Ned in Breathitt & Perry Counties. The surface area of the deferment is owned by Ed Clemons Heirs.

The operation is approximately 3 50 miles north from Kentucky 15's junction with Kentucky 28 and located between Tennille Creek and Perkins Branch on the Haddix U.S.G.S 7 1/2 minute quadrangle map.

The deferment is sought due to a coal marketing problem and is being requested for an initial period of six (6) months. The deferment may be renewed for additional periods up to a maximum of 30 months.

The application has been filed for public inspection at the Department for Surface Mining Reclamation and Enforcement's London Regional Office, Regional State Office Building, 85 State Police Road, London, KY 40741. Written comments or objections must be filed within 10 days of this notice with the Director, Division of Permits, #2 Hudson Hollow, U.S 127 South, Frankfort, Kentucky 40601

1-TES-5-1

Board of Health to meet

The Breathitt County Board of Health will meet Tuesday, May 14, 2002, 6:00 p m at the Old Country Inn. 1-TES-5-2

Breathitt County Board of Education
Bank Depository Bids

The Breathitt County Board of Education will receive sealed bids at the Central Office until May 3, 2002 for the selection of a bank depository for funds of the Breathitt County Board of Education, as well as, the six (6) schools included in the county system Bids will be opened on the date specified above. Bids must be labeled "Sealed Bid - Bank Depository for the Breathitt County Board of Education" and will be opened at 10:00 a.m.

If you need specifications for the bid, please contact Stacy McKnight, Finance Officer, 666-2662 or 2491

The Board of Education reserves the right to reject any and all bids, to waive any informalities and to negotiate for the modifications of any bids or to accept the bid that is deemed, the most desirable and advantageous from the standpoint of customer value, service, and concept of operations. 1-TES-5-2

Breathitt County Board of Education
2001-02 Audit Bids

The Breathitt County Board of Education is requesting bids for the 2001-02 audit.

Jackson Independent School District
School Based Decision Making Council
Parent Election

Parent nominations for one position on the Jackson Independent School District SBDM Council will be accepted through May 9, 2002. The election will be held on May 16, 2002, from 7.30 a.m through 6:00 p.m. in the breezeway of the J B Goff Gymnasium.

Eligibility requirements for Parent Members: The legal definition of parent (KRS 160.345 Lc.) allows biological parents, stepparents, foster parents, or persons who have court ordered legal custody to be nominated or to vote. According to the law, parents who are nominated or who wish to vote must have a child "pre-registered to attend" the school for next year. If a child is in preschool this year and will attend our school next year, the parents of that child would be eligible to be nominated, or vote in the election for next year's school council. Parent council members cannot be employed in or be related to someone who is employed in the school or in the district administrative offices. An Attorney General's Opinion (OAG 90-102) says that "relative" as used in this section should have the same definition found in KRS 160.180 and KRS 160.380 that applies to school boards. This means that a parent who is a "father, mother, brother, sister, husband, wife [illegible] son-in-law or daughter-in-law of someone who works at the school or in the district administrative offices could not be a parent-council member. Parent members cannot be a board member or a board member's spouse, nor can they have a business interest in the school. 1-TES-5-2

KENTUCKY MOUNTAIN POWER

EnviroPower, LLC intends to construct its nominal 520 megwatt coal fired electrical generating facility in Knott County, 13 miles NE of Hazard and approximately 2 miles North of Highway 80. The power plant will be located on a 195 acre knob known as "Potato Knob" and the facility will include an ash landfill approximately 1 mile South of the plant site on about 550 acres of mined out property leased from Appalachian Realty Company, and will convert an existing coal refuse impoundment into a freshwater reservoir on approximately 125 acres of leased property located 1 1/2 miles Southwest of the plant site. The power plant will draw water from the North Fork of the Kentucky River through a pipeline to be constructed and will connect to AEPs electrical grid at the Hazard and Beaver Creek substations. The proposed construction of the power plant is subject to approval by the Kentucky State Police Board on Electric Generation and Transmission Siting, which can be reached through the Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40601, (502) 564-3940. 1-TES-5-2

THE HAZARD HERALD

890 Legals

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1x-5/1-c-evp-74

NOTICE IS HEREBY THAT FINAL SETTLEMENTS HAVE BEEN FILED ON THE FOLLOWING ESTATES IN THE PERRY DISTRICT COURT:

W a d

890 Legals

NOTICE OF APPLICATION FOR RECLAMATION DEFERMENT DUE TO COAL MARKETING PROBLEMS

In accordance with 405 KAR 16:020, notice is hereby given that Leslie Resources, Inc., 2000 Ashland Drive, Ashland, Kentucky 41101, has applied for a coal marketing reclamation deferment for its surface coal mining and reclamation operation, permit number 897-0384. Deferment of reclamation is being requested for approximately 29.39 acres. The operation for which the reclamation deferment is requested is located 1.50 miles southwest of Ned in Breathitt & Perry Counties. The surface area of the deferment is owned by Ed Clemons Heirs.

The operation is approximately 3.50 miles north from Kentucky 15's junction with Kentucky 28 and located between Tennile Creek and Perkins Branch on the Haddix U.S.G.S. 7 1/2 minute quadrangle map.

The deferment is sought due to a coal marketing problem and is being requested for an initial period of six (6) months. The deferment may be renewed for additional periods up to a maximum of 30 months.

The application has been filed for public inspection at the Department for Surface Mining Reclamation and Enforcement's London Regional Office, Regional State Office Building, 85 State Police Road, London, KY 40741. Written comments

HOROSCOPES

Aries – March 21/April 20
You're not popular this week, Aries, and you feel like you're stranded behind enemy lines with nothing but your wits. For the next few days don't seek out confrontations.

Taurus – April 21/May 21
One way or another, you'll make a name for yourself this week, Taurus. You attract people who like controversy. Conversations at work get personal, but you started them.

Gemini – May 22/June 21
Like so many others these days, Gemini, you're a slave to your reactions. An unpredictable move confuses an opponent, but you already know where the relationship is going.

Cancer – June 22/July 22
If your clients or coworkers are smart this week, Cancer, they'll give you the power of final say.
Cancer's vision is the perfect mix of art and emotion. Your touch deeply affects many people.

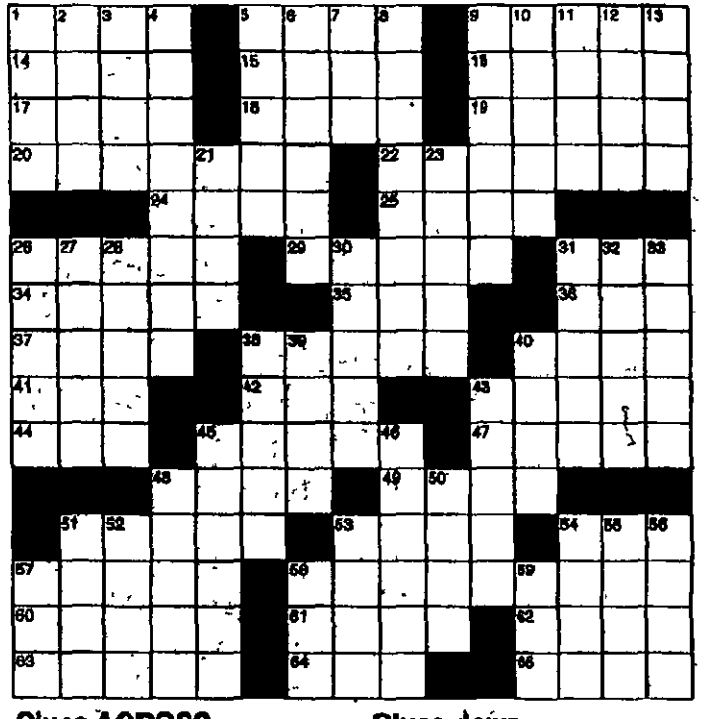
Leo – July 23/August 23
your most challenging day yet. Be clear about what you want to accomplish, because you will.

Sagittarius – Nov 23/Dec 21
Sagittarians know what they can and cannot do. A realistic attitude inspires confidence in someone who is tired of excuses.
Attempt to mend a space that has occurred between a friend and you.

Capricorn – Dec 22/Jan 20
Surprise everyone with your extensive knowledge and charismatic personality. Right now you can justify anything, Capricorn.
Appreciate what you can do, others surely agree with your efforts.

Aquarius – Jan 21/Feb 18
Even though you feel exposed and unready to conquer a major obstacle, Aquarius, you are actually ahead of the game. You have nothing to lose, so put your heart into your work.

Pisces – Feb 19/March 20



Clues ACROSS

1. Thwart
5. Greek god of war
9. Wing it
14. Decoy
15. Seen as fool (slang)
16. Order
17. Islamic call to prayer
18. Drag
19. Footed
20. Canis familiaris
22. Without wonder
24. Color
25. Which
26. Donate income regularly

Clues down

1. Falsehood
2. Liqueur of Greece
3. Asian country
4. Build up
5. Gray
6. Island in Venice
7. Flightless bird
8. Slosh
9. Asking
10. Distributed
11. Cord
12. Frosts
13. Stratums
21. State of Cambodia
23. Landing

THE FLOYD COUNTY TIMES

employment to be observed and minimum wage rates to be paid under the contract, Section 3, Segregated Facility, Section 109 and E.O. 12246 and Title VI Minority bidders are encouraged to bid. Successful bidders will be required to submit evidence of Workers Compensation and General Liability Insurance coverage at the time of contract signing

Low Income Housing Coalition of East Kentucky, Inc. (LINKS) Genevieve Williams, Program Coordinator Equal Housing Opportunity

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ADVERTISEMENT FOR BID

The Floyd County Board of Education is requesting sealed bids for the proposed sale of the Harold Elementary School Property, Deed Book 73, Page 81

A parcel of land located just north and adjacent to the junction of Kentucky State Route Number 979 and U.S. Route Number 23, Harold, Floyd County, Kentucky, and record source being deed book 73, page 81 of the Floyd County Clerk's office, and being more particularly described as follows

BEGINNING on an iron pin set, corner of a parent tract, on the Right-of -Way of U S. Route number 23, and being located 90.00 feet right of Station 850+80.09, said point having Kentucky State Plane, South Zone, Nad 83 coordinates of North 2,094, 047 24 feet and East 2,545,070.36 feet, *corner common to* on a survey made by me or under my direct supervision on February 8, October 25, November 19, and 26th, 2001, said survey having a percision of 1 foot in 10,762 feet and was not adjusted, and is a Class "A" survey, and meets all the specifications of this Class. The survey is based on Kentucky State Plane, South Zone, NAD 83 Coordinate System No research was done on easements as to location or size No underground stuctures were included in this survey. A plat was prepared by me and is Reed Engineering Company, Inc's file G:\FCBE\Harold_E\2 80506.dwg.

If any more information is needed, please contact Gregory Adams at (606) 874-9569.

Sealed bids must be clearly marked "Sealed bid for Harold Elem. Property" and may be mailed or hand delivered to Gregory Adams, Director of Maintenance, Floyd County Schools, located at 23 Martin Street, Allen, Kentucky 41601. Bids will be opened on the 15th day of May, at 10:00 a.m. at the above address.

Conveyance will be by special warranty deed and delivered to the successful bidder upon payment of the bid price. The payment of the bid is to *be made on or before* thirty days after notification of the acceptance of the bid.

The Floyd County Board of Education reserves the right to reject any or all bids.

PUBLIC NOTICE

Pursuant to KRS 231.040, application

HON. KEITH BARTLEY FLOYD COUNTY ATTORNEY

NOTICE OF BOND RELEASE

In accordance with KRS 350.093, notice is hereby given that Kentucky May Coal Company, Inc, HC Box 1045, Arnold Fork Road, Kite, Kentucky 41828, has applied for Phase III bond release on Permit Number 836-5268 which was last issued on June 15, 1993. The application covers an area of approximately 424 36 acres located 2.5 miles east of Drift, in Floyd County, Kentucky

The permit area is approximately 2 miles south of KY Rt 2030's junction with Little Mud Creek County Road being located on Lower Wolfpen Branch of Little Mud Creek. The latitude is 37 degrees 28 minutes 48 seconds The longitude is 82 degrees 42 minutes 17 seconds.

The bond now in effect for Permit Number 836-5268 is surety of $13,400.00 One hundred percent (100%) of the remainder of this bond is included in the application for release

Reclamation work performed includes. backfilling, final grading seeding and *mulching completed* Spring 1994 All disturbed areas have been seeded as to provide adequate vegatative growth for plant species and provide appropriate conditions for the surrounding wildlife Results thus far indicate growth of vegetation is according to the revegetation plan

tion fees

The approved septic installer's bid should also include the cost for all permits and inspection fees

Copies may be obtained at the office of the Low Income Housing Coalition of East Kentucky, Inc, 116 N Front Ave, Prestonsburg, KY 41653, between 9 a.m - 3 p m. Monday - Friday

All bids should be submitted to Jeremiah Stamm, Low Income Housing Coalition of East Kentucky, Inc, 116 N. Front Ave, Prestonsburg, KY 41653, and clearly marked on the outside of the bid "Webb Bid." No bidder may withdraw his/her bid within 60 days of the actual bid opening thereof

The owner reserves the right to waive any informalities or to reject any or all bids

Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the contract Section 3 Segregated Facility, Section 109 and E.O 12246 and Title VI Minority and Women owned businesses are encouraged to bid Successful bidders will be required to submit evidence of Workers Compensation, Builders Risk and *General Liability* Insurance coverage at the timeof contract signing.

Low Income Housing Coalition of East Kentucky, Inc, Jeremiah Stamm, Director, Equal Housing Opportunity

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POWER

EnviroPower, LLC, intends to construct its nominal 520 megawatt coal fired electrical generating facility in Knott County, 13 miles NE of Hazard and approximately 2 miles North of Highway 80. The power plant will be located on a 195 acre knob, known as "Potato Knob," and the facility will include an ash landfill approximately 1 mile South of the plant site on about 550 acres of mined out property, leased from Appalachian Realty Company, and will convert an existing coal refuse impoundment into a freshwater reservoir on approximately 125 acres of leased property, located 1 1/2 miles Southwest of the plant site. The power plant will draw water from the North Fork of the Kentucky River through a pipeline to be constructed and will connect to AEP's electrical grid at the Hazard and Beaver Creek substations. The proposed construction of the power plant is subject to approval by the Kentucky State Board on Electric Generation and Transmission Siting, which can be reached through the Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40601, (502)564-3940.

NOTICE OF PROPOSED RATE INCREASE

In accordance with the requirements of the Public Service

bill
All over
2,000 gallons
4.27 per 1,000 gallons

Proposed Monthly Rates - District Wide

All Meters.
First
2,000 gallons
$ 14.80 minimum bill
All over
2,000 gallons
4.30 per 1,000 gallons

The RD loan proceeds will be used in conjuction with (i) an RD Grant in the amount of $450,000, (ii) an ARC grant in the amount of $433,900, (iii) a State of Kentucky Surplus grant in the amount of $300,000, and (iv) a Floyd County Fiscal Court contribution in the amount of $2,474,000 to finance the cost of extentions, additions and improvements to the existing waterworks system of the District, consisting of the construction of (i) approximately 27 miles of water line, (ii) six (6) water storage tanks, (iii) six (6) pumping stations, and (iv) a telemetry system. Signed Hubert Halbert, Chairman, Southern Water and Sewer District, McDowell, Kentucky.

COALFIELDS TELEPHONE COMPANY A GEARHEART COMMUNICATIONS COMPANY

Coalfields Telephone Company has a 47 year history that is marked by commitment, hard work and unparalleled pride in the character and scope

Coalfields Telephone representative at.
606.478 9401
ext: 251

For more information about Coalfields Telephone other services and benefits, contact your representative at
606.478.9401
ext 251

"These rates do not include the federal end user charge, other surcharges, or taxes.

SOLICITATION FOR PROPOSAL TO INTERESTED INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS (ICPAS):

Big Sandy Area Commmunity Action Program, a non-profit 503c Corporation, with central offices located in Paintsville, Ky., will be accepting proposals for audit services for the fiscal year ending 6/30/02. Big Sandy Area CAP is a social, health and welfare nonprofit organization operating multiple state and federally funded programs.

Our programs range in diversity from workforce training, senior work supplementation, as well as federally funded headstart programs, which cover a five county area.

Proposals should be organized and submitted in strict accordance with the format provided by Big Sandy Area Community Action Program. The agency reserves the right to refuse to consider proposals that are not submitted in this format or that are incomplete.

experience in performing governmental audits, qualifications of staff, and approach for planning and conducting the audit.

General Information

The audit will encompass all funds under the control of the agency. There will be no limitations on the scope of the audit. The audited financial statements should be presented in accordance with Governmental accounting Standards Board Statement 34.

An engagement contract will be awarded for a specified contract period, which may include multi-year audits.

The audit must be a financial audit performed in accordance with.

1. Gencral accepted audit standards, promulgated by the Auditing Standards Board of the American Institute of Certified Public Accountants.

2. The standards contained in Government Auditing Standards, issued by the Comptroller General of the United States.

3. Office of Management and Budget Circular A-133.

Each audit report shall include all reporting requirements as outlined for (Agencies Receiving Federal Awards), copies will be provided upon request.

The report must include the following supplemental information. The auditor's report must state whether the information is fairly presented in relation to the financial statements, taken as a whole.

2. Division of Administration reporting package.

Unless otherwise specified at the conclusion of the audit, the ICPA will immediately send

- Ten copies of the report to management of the agency.
- Appropriate distribution as required by OMB Circular A-133.
- A copy of the report to each agency providing monies to the agency.
- A copy of the report to any agency exercising oversight responsibilities

Working papers and all correspondence relating to the audit shall be retained for a penod of three years from the date of the audit report, unless the ICPA is notified to extend the retention period. All of the working papers shall be available for inspection by the agency, any successor or principal auditor, any federal or state grantor agency, and cognizant agency. The predecessor auditor will provide all of the working papers to the successor auditor at a cost of no more than $.20 per copy, with no further fees assessed.

Additional contract compliance, proposal evaluation procedures as well as terms for compensation and payment will be provided to any ICPA upon request. All replies to this solicitation proposal should be mailed directly to:

Mr. Mike Howell
Executive Director
Big Sandy Area
Community Action
Program
Third Floor,
Johnson County

Kentucky Mountain POWER
NEW ENERGY FOR EASTERN KENTUCKY

April 26, 2002 **VIA CERTIFIED MAIL**

Lynn Colley
AEI Resources, Inc.
2000 Ashland Drive
Ashland, Kentucky 41101

Re: Public Notice concerning Kentucky Mountain Power Plant

Dear Mr. Colley:

Enclosed is a public notice that will be published in the Knott County and Hazard papers in the next few days. This notice is required under the last remaining state approval to construct we are seeking. While as our lessor, you are well aware of the information contained in the notice, under the subject legislation we are required to send notice to all contiguous land owners. If you have any questions, don't hesitate to contact me. If this notice should be sent to any other person in your organization please let me know.

Sincerely,

Peter C. Brown

Cc: John Tate
Randy Bird

408-KMP-AEI-Siting-Bill-Notice

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3 Also complete item 4 if Restricted Delivery is desired
- Print your name and address on the reverse so that we can return the card to you
- Attach this card to the back of the mailpiece, or on the front if space permits

1 Article Addressed to

Mr Lynn Colley
AEI Resources Inc.
2000 Ashland DR
Ashland, Ky 41101

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)* B. Date of Delivery 4-26

C Signature X ☐ Agent ☐ Addressee

D Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below ☐ No

3 Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C O D

4 Restricted Delivery? *(Extra Fee)* ☐ Yes

2 Article Number *(Transfer from service label)* 7001 2510 0005 1407 1187

PS Form 3811, March 2001 Domestic Return Receipt 102595-01-M-142

2810 Lexin
Phone

Kentucky Mountain POWER
NEW ENERGY FOR EASTERN KENTUCKY

May 30, 2002

Honorable Donnie Newsome
Judge Executive
P. O. Box 505
54 West Main Street
Hindman, Kentucky 41822

Re: Case No. 2002-00149
Kentucky Mountain Power, LLC
Merchant Power Plant Application

Dear Judge Newsome:

Attached is the full Application for Certificate to Construct a Merchant Coal Fired Power Plant near Talcum in Knott County Kentucky.

Kentucky Mountain Power will make this application before the Kentucky State Board on Electric Generation and Transmission Siting. Please sign below to acknowledge receipt of your copy of this application.

Sincerely,

Frank L. Rotondi
President and CEO

Donnie Newsome
Judge Executive

Attachment
h:\bird\corr.02\dnewsome.5.31

2810 Lexington Financial Center • Lexington, KY 40507
Phone: (859) 389-8070 • Fax: (859) 389-9980

KNOTT COUNTY FISCAL COURT

Office of Judge Executive Donnie Newsome

P.O. Box 505
54 West Main Street
Hindman, KY 41822

Telephone: (606) 785-5592
FAX: (606) 785-0966

February 27, 2001

Mr. John Tate
Enviro Power

RE: Permits

Dear John,

Knott County will require *no* construction permits *nor* does the county have any zoning regulations or ordinances that will affect the development and/or construction of the proposed power plant at Knott County's industrial site.

If you have any further questions or concerns please do not hesitate to call me.

Sincerely,

Donnie Newsome

Donnie Newsome
Judge/Executive

EnviroPower

CLEAN ENERGY FOR AMERICA

Local plant, regional benefits, national spotlight

ECONOMY

- 600 to 1,000 construction jobs during a three-year period
- Direct employment to exceed 50 high-quality jobs
- 100 transportation jobs
- $875 million investment

COMMUNITY

- Land donation for business park
- Improved water/sewage infrastructure
- Improved access to Ky. 80

ENVIRONMENT

- Far exceeds all EPA standards
- Coal plant with fewest mercury emissions in world

COMING SOON — CLEAN COAL TECHNOLOGY

For our economy. For our community. For our environment.

As a Kentuckian, I appreciate the importance of preserving our heritage and the natural beauty that surrounds us.

As an entrepreneur, I realize that reliable, low-cost energy is an important commodity for economic success in the future.

As a son, I understand that our senior citizens cannot afford to pay skyrocketing electric costs like the ones occurring in California.

But most importantly, as a businessman, I know how environmentalists, entrepreneurs and extended families can not only co-exist, but thrive

In Kentucky, we will soon be preserving history and making it

EnviroPower will be breaking ground in July on a new facility in Knott County. It will be the cleanest coal-fired plant in the world And it will clean coal waste in Eastern Kentucky Instead of sitting in a pond and posing a potential danger to our communities, EnviroPower will be cleaning up and using waste coal piles (gob) for fuel.

We're also proud to be working with the state by donating nearly 1,000 acres for a business/industrial park, providing water and sewer lines for nearby businesses and homes, and improving access to Ky 80.

More jobs. More revenue for local governments. Better water, sewer and road infrastructure.

The entire region benefits from this plant But we could not have done this without the help of Congressman Hal Rogers, Governor Paul Patton's administration, local officials and the support of hundreds of area residents

Please take a few minutes to read more about what the new plant will mean to our region

Sincerely,

Harold E Sergent

Harold Sergent
President, CEO and Chairman of the Board

LOCAL ECONOMY AND COMMUNITY WILL BENEFIT

EnviroPower's new coal-fired power plant will benefit Knott County and the surrounding areas in several ways. In addition to being an environmentally friendly neighbor, the plant will generate millions of dollars in investment, wages, and infrastructure improvements for water and roads

"Local residents and area officials, as well as Congressman Hal Rogers and Governor Paul Patton, realize the importance of reliable, stable electricity," said Harold Sergent, EnviroPower's president, CEO and chairman of the board "That's why they've been so supportive and helpful

"In return, EnviroPower also recognizes the importance of being a good neighbor That's why we've taken some important steps in helping the area "

Jobs/investment

The direct impact on the community will be great, Sergent said The plant will provide 600 to 1,000 construction jobs during a three-year period. Direct employment at the plant will exceed 50 jobs, and more than 100 people will be employed by transportation companies that haul materials such as fuel and limestone

continued on page 3

LOCAL ECONOMY AND COMMUNITY WILL BENEFIT... CONT.

The plant also will help sustain the mining industry because its location will mean lower transportation costs and more mining opportunities

In addition, the project will pump $875 million into the economy for construction, equipment and other costs

Water/road improvements

Sergent and others also said there will be a large indirect impact from the new facility. Reliable, low-cost power will attract new business and industry to the region To give economic development a jump start, EnviroPower has donated nearly 1,000 acres of land to the state, which in turn will donate the land to the local counties to build a regional industrial/business park

In addition, EnviroPower will help with infrastrucure improvements that will benefit the economy and the community. A new $50 million water line being built by EnviroPower will be available for the business park. The company also is working with the state to improve access from an existing stretch of Ky 80, including a new bridge to support increased loads

BLACK GOLD IS GREEN

Clean coal technology isn't a theory that exists only in a classroom. It's a reality

Power plants have made great progress for years in reducing emissions through the use of innovative technology.

But EnviroPower goes even further to improve air quality All of its plants will use a proven, state-of-the-art technology known as CFB (circulating fluidized bed combustion). CFB is much cleaner and more efficient than the boilers used in most coal-burning plants.

"This new technology is already at work," said Dan Poteet, EnviroPower's director of environmental affairs. "The EPA recognizes it as the best available control technology for burning coal and other solid fuels The Knott County plant will take it to a new level "

He points to several facts that show how the plant's technology will be better for the environment

"It will emit less mercury than any other coal-fired plant in the world — about 1 pound to 2 pounds of mercury each year compared to the 3,640 pounds that regulations currently allow," Poteet said

Scrubbers will be installed for both the beginning and end of the process, which means that more than 98 percent of sulfur dioxide will be removed. Limestone is used to capture the sulfur before it is emitted

In addition, 95 percent to 98 percent of particulates will be removed

"We aren't just meeting the EPA standards," Poteet said "We're exceeding them. The plant will have less than one-fourth of the total emissions of existing coal-fired utilities. And, it will have one-third of the emissions allowed by EPA New Source Performance Standards for new electric generating units We're raising the bar for environmental stewardship."

Because of the steps that EnviroPower is taking, the National Park Service issued a letter concluding that emissions from the Knott County facility "will not likely have adverse impacts on the air quality related values at the Great Smoky Mountains National Park "

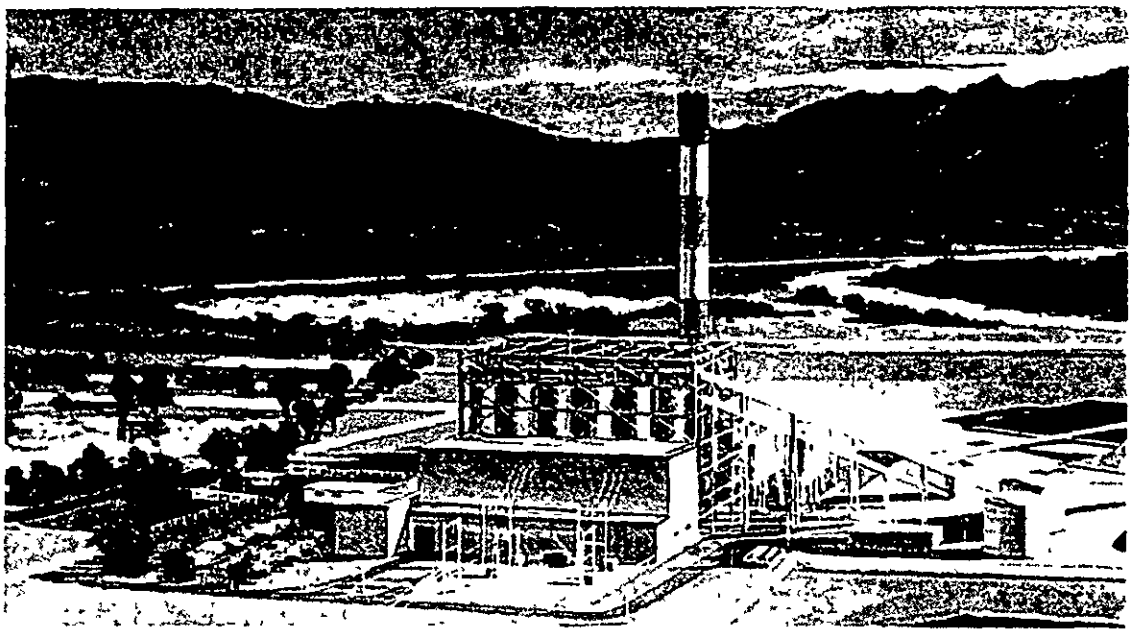
But EnviroPower is moving beyond air quality issues to another critical concern for the area — coal waste Currently, there are million of tons of coal waste in Eastern Kentucky. The plant will clean up waste coal piles (gob), using them for fuel

"It's the only way to eliminate coal waste," Poteet said "EnviroPower will use the coal waste and reclaim the sites, which reduces and eliminates future risk of environmental problems that would occur at these sites."

The company also is addressing the issue of coal ash, which is a by-product of the process. EnviroPower is taking the additional step of lining the coal ash pits to ensure that nothing will leach into the groundwater supply

Because of the steps that EnviroPower is taking, the National Park Service issued a letter concluding that emissions from the Knott County facility "will not likely have adverse impacts on the air quality related values at the Great Smoky Mountains National Park."

A POWER PRODUCTION SHOWCASE



EnviroPower is an independent power producer That means EnviroPower doesn't provide electricity directly to your home or business Rather, it generates electricity and then supplies it to your electric company

"The goal of EnviroPower is to develop waste coal-fired power as a low-cost and stable alternative to gas-fired or traditional coal-fired generation," said Harold Sergent, EnviroPower's president, CEO and chairman of the board "That's good for Kentucky's economy, and it's good for Kentucky families

"Our facility being built in Knott County will utilize the latest clean coal technology That's good for Kentucky's environment "

EnviroPower has compiled a management team with a complementary mix of technical, sales, legal, financial and mining professionals from the power and mining industries They have more than 170 years of combined experience in the coal industry and 105 years in the power industry

Sergent has 35 years of experience in the energy business, including serving as president of Ashland Coal from 1983 to 1985 He has a bachelor's degree from Morehead State University and an MBA from Oklahoma State University

Executive Vice President and Chief Operating Officer Morten Sissener has more than 20 years of experience in independent power development

The Hazard HERALD

Vol. 89, No. 41 Hazard, KY 41702

$600 million power plant will surge Perry County's economy

Greta Fields
Hazard Herald Staff

A $600 million coal-fired power plant will be built near Hazard that uses [illegible] technology to generate low-cost electricity to meet an increasing national need for power.

Plans for the power plant were announced Tuesday by Governor Paul Patton in a joint press conference at Hazard City Hall with Mayor Bill Gorman and Kentucky Mountain Power, a subsidiary of the project developer, EnviroPower, LLC, of Lexington.

Kentucky Mountain Power's 500-mega Watt facility will be built on a remote mine site 10 miles northeast of Hazard off KY 80, near the wildlife management area used for the release of elk.

At the peak of construction, the project will create 600 jobs during construction.

The plant will operate with about 50 permanent workers on an annual $30 million year budget.

The plant will use a recirculating, on-site water supply for boilers and steam turbines. It will burn a combination of waste coal and high-grade coal, using an environmentally friendly technology known as a circulating fluidized bed (CFB).

This type of boiler will burn low-grade fuels while meeting all state and federal air-quality standards, according

See POWER Page 5A

Leading Newspaper For Hazard
And Perry County Since 1911

50¢

Mid-Week Edition – April 5, 2000

Governor Paul Patton

Kentucky Mountain Power plans to build a plant consisting of twin 250-mega Watt units on the former Cyprus coal mine site in Knott County, near the Perry border. By using local coal rather than exporting it, Kentucky Mountain Power will be a source of new energy for Eastern Kentucky and a prime attraction for future development.

Power Plant

Continued from Page 1A

to a news release from Harold Sergent, president of Kentucky Mountain Power and EnviroPower.

"This is a unique project," Sergent said. "We will be creating economic opportunity while improving the environment by cleaning up millions of tons of coal wastes that have piled up across the region over the last 50 years," he said

"By choosing a technology which allows us to use low-cost fuels we will be in a very competitive position," Sergent said. "And the availability of abundant, afford able power can help spur economic development in Eastern Kentucky"

The plant will help meet a demand for electricity that is rising faster than the capacity to meet it, Sergent said. Utility de-regulation will occur in the next two years, and that will open the market, he explained.

The new power plant will supply a market, and markets is what Eastern Kentucky coal companies need, according to Governor Patton.

To encourage coal-fired plants to locate in Kentucky, Governor Patton has signed two bills into law He signed HB 806 in Hazard Tuesday which will open up Kentucky Rural Economic Development Act incentives to coal-fired power plants that build in coal-producing counties.

Gov. Patton then traveled to Madisonville, the center of the Western Kentucky coal industry, and signed HB 805, which gives the plants a tax credit of $2 dollars per ton of coal.

Other states already enacted incentives for coal companies, and Kentucky lost million-dollar national markets to these states – Pennsylvania, Ohio, and West Virginia, Patton said. In addition, Kentucky coal is "threatened" from loss of foreign markets, he said. He listed a half dozen countries which dropped Kentucky exports

"For our lifetime, coal will continue to be the backbone of our economy, but coal is in trouble, he said."

Mayor Bill Gorman, who hosted the event, praised Kentucky Mountain Power for reversing the trend of exports "This project adds value to our resources before it sells them," he said. "That is what we should be doing to strengthen our economy," he said.

Mayor Gorman also praised the governor "In the field of development, he has done more for East Kentucky than any other governor".

INSIDE

Wednesday, July 4, 2001

50¢

The Hazard Herald

Email: hazardherald@setel.com "Hazard's leading source for local news" Volume 90, Issue 42 Hazard Herald, Hazard, Ky.

photo by Greta Fields

The groundbreaking was held Monday for a 530 megawatt power plant on the Knott-Perry-Breathitt line. Government officials spoke in unified support of the project, saying it will rejuvenate the coal economy, create jobs and industry, without environmental harm.

Ground breaks for power plant

Greta Fields
Editor

Hundreds of people attended the groundbreaking Monday for a 530-megawatt power plant, which will be constructed near the Addington wildlife preserve on former Cyprus Amax Coal strip mines

U S. Secretary of Energy Spencer Abraham, the son of a Pennsylvania coal miner, led a host of speakers who praised the benefits the plant would bring to a power-hungry nation and job-starved Appalachia.

Abraham said that the message he will take back to Washington is consistent with the president's energy plant - that the nation must maximize energy conservation and efficiency, while increasing supply

Abraham said that power production can be done in a way that is "environmentally conscientious"

He addressed a group of people who protested that the plant will cause damaging pollution "No, you are wrong Kentucky is leading us in that

See POWER Page 3A

Power plant

Continued from Page 1A

way," he said

Demonstrators formed a minority in the crowd, although the leaders say they have 266 names on a petition, from people in Bulan, Dwarf, Talcum, Ary and Emmalena.

However, every speaker proclaimed the benefits of the plant. Morten Sissener, chief operating officer of EnviroPower and Kentucky Mountain Power, said the plant will be "the cleanest coal-fired power plant in the world" and will use up 200 million tons of waste coal (gob) annually

The plant represents a $900 million investment which will create 600-1000 construction jobs; 50 permanent jobs and 100 transportation jobs, he said. The project will leave Eastern Kentucky with better roads, water lines and a 1000-acre industrial park, he pointed out.

The plant will support the nation's energy needs for decades, but "not at the expense of air and water," he said.

"That's the power of progress.

Crit Luallan, who represented Governor Paul Patton's cabinet, said the project will "revitalize the coal industry" The "rebirth of energy" can be accomplished "without damage to the environment," she said,

In exchange for the benefits, the state has extended tax credits to plants in coal-producing counties, she said, adding that Kentucky Mountain Power will get $30 million in future tax credits.

Sen Jim Bunning emphasized that Kentucky has the "lowest cost electric generation of all 50 states."

"Coal is on the rise again For that, we can thank our President and Mr. Abraham," he said.

Sen Mitch McConnell credited West Virginia politicians for supporting new coal technology "If we are going to meet America's power needs, coal has got to be a big part of the mix, doesn't it?'

Congressman Hal Rogers, the co-founder of the environmental cleanup program PRIDE, call the project a "wise plan to attach the nation's worst energy needs.

Rogers said the plant will produce less than one-quarter of the emissions of existing plant, and will only generate a small amount of mercury

"This will be the cleanest coal-burning plant in the world," he said.

"I'm taking pride in the fact that this is a PRIDE project: It will clean up the gob piles that have ruined east Kentucky for years," he said.

photo by Greta Fields

The U.S. Secretary of Energy, Spencer Abraham, said the nation must increase energy supply, but "maximize energy conservation" at the same time.

Local manufacturer invents drying device to eliminate slurry

Cara Wadsworth
HAZARD HERALD

A revolutionary process developed by A&T Manufacturing Company in Jeff, KY, could eliminate risky slurry ponds and change the coal industry's waste-disposal system by drying coal slurry

According to Charlie Browder, president of A&T Manufacturing, the refuse de-watering device— also known as the 'mucksucker'—should hit the market in 12 to 18 moisture rating down to 15-18%

The remaining compacted solid has the texture of moist soil and can be hauled in trucks to put in solid waste fills instead of slurry impoundments

Browder explained the importance of developing the device

" There's lot's of potential and need for this machine. To help the coal business exist and go on, we've got to take away the environmental issues that surround it, and reduce the that with the increased public awareness for potential problems relating to slurry ponds, the device can be more capital intensive, and consume more energy while remaining viable to the coal companies.

Vicco Investment Corp. bought the patents on the device and A&T Manufacturing began the development and testing of the prototype six years ago During development, they went from a 15 inch belt to a 60 inch belt that processes 300 gallons of slurry per [illegible]

photo by Greta Fields

Congressman Hal Rogers spoke at length about the power plant project with members of a film crew from the Appalshop, a media center in Letcher County which has documented Appalachian culture since the 1960s. Rogers called the plant a PRIDE project. "It symbolizes all that is right with Eastern Kentucky," he said.

Liberty Bell photos by Bob Mank

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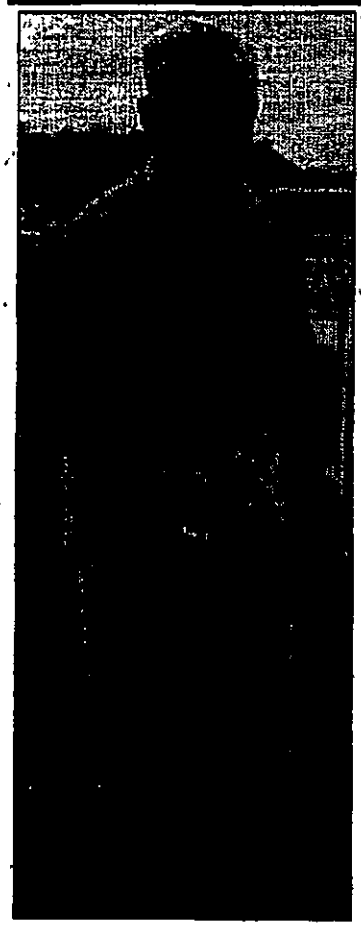

Hazard Mayor Bill Gorman

"The great work that EnviroPower is doing hear, the great things that will come from this, the great benefits that will come to all of us - we talked about this 50 years ago, and now it's finally happened."

- Mayor Gorman

Rep. Brandon Smith sa generate millions of doll

news release

Representative Brandon Smith of Hazard was on hand for EnviroPower's groundbreaking ceremony for a power plant in Knott County Monday.

"Eastern Kentucky's coal industry has provided power for the nation for decades. As a member of the General Assembly's Energy Committee, I've made it a priority to do all we can to lure companies like EnviroPower here. I'm fortunate to be in the position to see this happen.," Smith said.

"This power plant represents the next generation of power production facilities, and again eastern Kentucky is in the lead. The benefits obtained from this plant will generate millions of dollars to our economy and infrastructure improvements for water and roads," he added.

Also attending the groundbreaking were U.S. Energy Secretary Spencer Abraham, U S Senator Mitch McConnell, U.S Senator Jim Bunning, and U.S. Representative Hal Rogers The Kentucky Mountain Power facility is scheduled to go online in 2004.

EnviroPower's new coal-fired power plant will provide 600 to 1,000 construction jobs during a three-year period, 50 jobs once the plant begins operating, and more than 100 jobs with transportation companies hauling materials

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First Amendment of the
U.S. Constitution

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; abridging the freedom of speech, or of the press; or the right of the people to peaceably assemble, and to petition the government for a redress of grievances.

ly 3, 2001 • 4A

photo by Greta Fields

Rep. Brandon Smith was one of hundreds of people attending the groundbreaking for the power plant in Knott County: Bernie Faulkner of Hazard (l-r), Vincent Fields, political director at the Republican Party of Kentucky, Smith, and Scott Jennings, communications director for the Republican Party, in Frankfort.

's power plant will ars for state's economy

such as fuel and limestone.

Unlike other power plants, this facility will be online 24 hours a day, seven days a week.

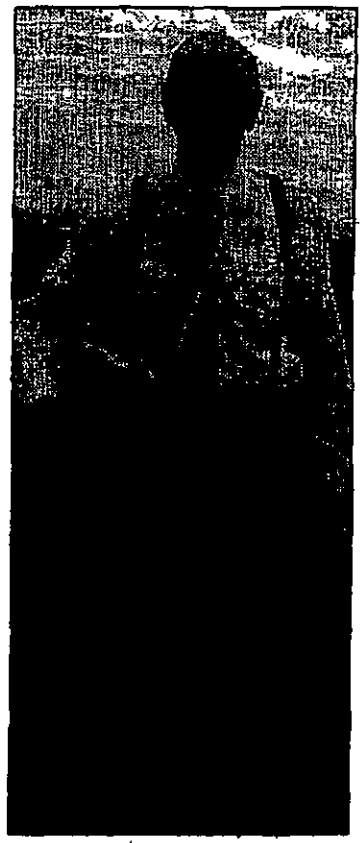
The new power plant will also help sustain the coal mining industry of eastern Kentucky. The convenient location of the power plant will cut down on transportation costs, which means that coal that yesterday was too expensive to mine and haul, becomes incredibly cost-effective

The project will pump $875 million into the region's economy for construction and equipment. In addition, the reliable, low-cost power will attract new business and industry to the region.

EnviroPower has donated nearly 1,000 acres of land to the state, which in turn will donate the land to area counties for a regional industrial/business park.

Road and bridge improvements from Highway 80 will also be a part of the project, as well as a new 50-million dollar waterline for use in surrounding communities and in the newly created business/industrial park.

"Being part of such an important project today leaves me with a good feeling, the citizens I represent will directly benefit from this plant. As a member of the General Assembly, I will continue to work for this kind of development for eastern Kentucky," said Smith.



Vernon Cooper collected one more shovel at the groundbreaking Monday for EnviroPower's power plant.

"I think this is the greatest thing that's come around in my lifetime. . . this is a big deal. If it works out, it will rejuvenate the coal economy."
Lewis Warrix, friend of the late Buggy Clemons, the 'visionary' who would have built a plant first.

4.3 AIR PERMIT PUBLIC HEARING SIGN-IN

One hundred twenty-seven people attended the air permit hearing. The sign-in sheet could not be located in the Cabinet for Natural Resources and Environmental Protection.

FAX

Department of Environmental Protection
Division of Waste Management
Central File Room
14 Reilly Road
Frankfort, Ky. 40601
(502) 564-6716
Fax: (502) 564-9232

TO: Bill McGregor
FAX#: (859) 259-2717
FROM: Maria Wood
DATE: May 24th 2002
SUBJECT: Copy of Attendance of Public meeting
PAGES INCLUDING COVER SHEET 16
FOR VERIFICATION CALL (502) 564-6716, ASK FOR:
COMMENTS:

Natural Resources and
Environmental Protection Cabinet

FIRST NAME	LAST NAME	STREET ADDRESS	CITY/TOWN	STATE	ZIP CODE	COMMENTS YES/NO
(No address) James	Johnson	Topmost KY		KY	41862	No
Danny	Osborne	1376 Dry Creek Rd.	Topmost	Ky.	41862	NO
Jim	Jones	P.O. Box 72 Claymore Ky.	Claymore	Ky	41842	NO
Larry	Collins	HC 70 Box 411	Fleming Neon	Ky	41804	No
Joyce?	Combs	P.O. Box 1048	Hindman	Ky	41822	No
Lillian	Combs	2944 Hwy 721	Hazard	Ky	41701	No
Valera	Deck	2944 Hwy. 721	Hazard	Ky.	41701	NO
Darlene	Martin	3309 Hwy 721	Hazard	Ky	41701	No
Mac Combs		2944 Highway 721	Hazard	Ky	41701	no
Edward Madden		Box 15 Pippa Passes, Ky	Pippa Passes	Ky	41844	No
Brenda Combs		15 Old Garner Rd	Hindman	Ky	41822	no
[illegible] Combs		1691 Clear Fork Rd	Hazard	Ky	41701	No
Donald [illegible]	Feltner	1230 Clear Fork Rd	Hazard	Ky	41701	No
Sharon H	Hall	1217 Hwy 550 E PO Box 642	Hindman	Ky	41822	No
[illegible]	Petrey?	2810 Lex Fin. Center	Lex	Ky	40507	No
Randy Bird	Bird	117 Lincoln St	Hazard	KY	41701	?
Joe Tate	Tate	815 Flat Rd?	Bonnyman	Ky.	41719	No
Ron Johnson	Johnson	Bx 444 Hindman Ky 41822	Hindman	Ky	41822	No
Donnie	Newsome	3907 Hwy 7 So. Dema Ky 41859	Dema Ky	Ky.	41859	No
(No address) Dan	[illegible]	-	Mousie Ky 243	Ky	41839	No

Division of Water
14 Reilly Rd
Frankfort, KY 40601-1189
Phone 502-564-2225 x561
Fax 502-564-5105

Department for Environment Protection

Fax

To: Bill McGregor
From: Erin Martin
Fax: 859-259-2717
Date: 5/23/02
Phone
Pages: 3
Re:
CC:

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

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•Comments:

Here is the information you requested.

thx.

Erin Martin

Kentucky Mountain Power PUBLIC HEARING DIVISION OF WATER

Hearing location Knott Co Human Serv. Center Date 7/25/01;7:00pm

Name Donnie Newsome

Title Co Judge Exec.

Address P.O. Box 505

Hindman Ky.

E-mail Address.

Representing what interest.

Do you wish to present oral testimony? Yes ______ No ✓

Do you wish to be added to the mailing list to receive all public notices statewide? Yes ✓ No ______

Kentucky Mountain Power PUBLIC HEARING DIVISION OF WATER

Hearing location Knott Co Human Serv. Center Date 7/25/01;7:00pm

Name: DAN POTEET

Title DIR ENVR AFFAIRS

Address 2810 LEX Financial Center

LEX. Ky 40507

E-mail Address dpoteet@[illegible].com

Representing what interest ENVIRO POWER

Do you wish to present oral testimony? Yes Maybe No ______

Do you wish to be added to the mailing list to receive all public notices statewide? Yes ✓ No ______

Kentucky Mountain Power PUBLIC HEARING DIVISION OF WATER

Hearing location Knott Co Human Serv. Center Date. 7/25/01;7:00pm

Name Buford [illegible]

Title

Address 34 Water [illegible] Knott

Garrett, Ky 41630

E-mail Address.

Representing what interest.

Do you wish to present oral testimony? Yes ______ No ✓

[illegible] to be added to the mailing list

5.0 Electric Transmission Grid Analysis

KMP is interconnecting with AEP at the KMP plant switching substation. AEP will accommodate the flow of power into their system via one existing and two new 138 KV lines. Each of these lines is capable of carrying at least 250 megawatts. Therefore, if any one line is out of service, the remaining two lines can carry the full plant output. This single contingency design will ensure reliable conduits of energy into the AEP grid.

The existing 138 KV line was built in the early 1980's from the AEP Beaver Creek Substation in Floyd County to serve a dragline at the Starfire Mine site in Knott County where the KMP plant will be located. The first new 138 KV line will be constructed from the plant site to the AEP Hazard substation thus converting the original radial line into a loop into Hazard from Beaver Creek. This is a welcomed benefit to AEP and the local retail customers.

The second new 138 KV line will extend from the plant switching substation back to the AEP Beaver Creek substation adjacent to the existing 138 KV line.

During EnviroPower's initial assessment of the site, it was discovered that the Hazard area is a load sink. Power is currently being transmitted hundreds of miles into the area from Big Sandy plant in Lawrence County, from TVA in the south and AEP Virginia from the southeast.

The addition of 500 MW in the Hazard area saves utilities from large line losses by not importing power over large distances. This dramatically improves the reliability to the native load customers by limiting the dependence on power transmitted from afar.

Included in this report are the load flow, short circuit and stability and facility studies completed by AEP for this project. The results of the study show that the AEP system can accept the output from this project very well with the addition of only one system improvement, that being the construction of a 138/69 KV substation at Hiner. EnviroPower has agreed to pay for this.

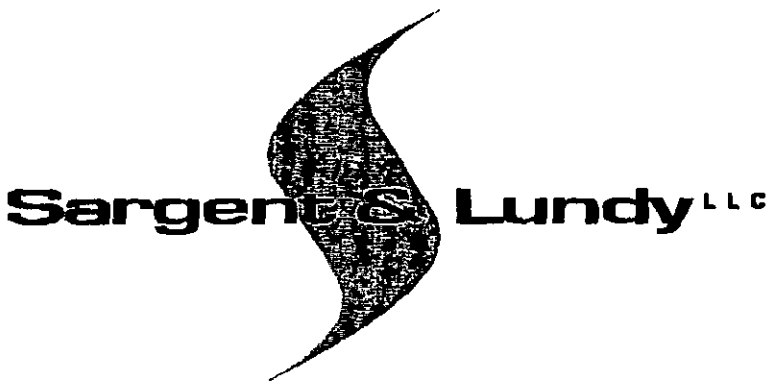
AEP has provided copies of these studies to adjacent system owners: EKP and TVA.

Also included is the signed Interconnect Agreement with AEP.

TRANSMISSION INTERCONNECTION

STUDY

By



For

Enviro Power, LLC
Star Fire Project

January 13, 2000

DRAFT

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

Enviro Power, LLC authorized Sargent & Lundy to perform a Transmission Interconnection Study for a generation Project (hereafter referred to as "Project") at the Star Fire mine and also to propose alternate conceptual designs and cost estimates for the Project's interconnection with AEP grid.

The Star Fire mine is located near Hazard City in east Kentucky. As shown in Exhibit B-1, the closest transmission facilities to the mine are Beaver Creek 138 kV substation and Baker-Broadford 765 kV transmission line. The distance between the Star Fire mine and Beaver Creek substation is about 25 miles. The closest distance between the mine and Baker-Broadford 765 kV transmission line is almost the middle point between the Baker and Broadford substation and it is 26 miles away from the Star Fire mine. The Star Fire site is tapped to 138 kV substation (Harbert Metering) that is fed by a 138 kV transmission line connected to Beaver Creek 138 kV substation The line is also tapped to feed Yellow Mountain and Consolidate Coal Tap 138 kV substations. The 138 kV line has a normal rating of 143 MVA for the line segment connecting Beaver Creek with Consolidated Coal Tap substations and 258 MVA normal rating for the line segments between Consolidated Coal Tap and Herbert Metering substations.

This study evaluates the transmission interconnection for two Project's generation Options:

500 MW Project's Generation Tapped to the 138 kV System

The Project's generation of 500 MW is tapped to Harbert Metering 138 kV bus In addition to the existing 138 kV transmission line between Harbert Metering and Beaver Creek, a new double circuit 138 kV transmission line connecting Harbert Metering substation to Beaver Creek is needed to carry the power to load centers in the region. The double circuit 138 kV transmission line is about 25 miles long and each circuit is assumed to have a normal rating of 258 MVA

The power flow solutions show that the new generation does not create any new overloads in the AEP system and ECAR region except for the overload in Beaver-Creek – Consolidated Coal Tap 138 kV line. The line is overloaded to 120 % of its 143 MVA normal rating. The line overload is also above the line 151 MVA long term rating. The interconnection of the Project's generation to the 138 kV system requires the reconductoring of Beaver Creek – Consolidated Coal Tap 138 kV line to increase its MVA normal rating similar to the Consolidated Coal Tap – Harbert Metering line segments normal rating.

The power flow solution and Exhibits B-9 and B-10 show that the 500 MW Project's generation is carried through the 138 kV system to load centers approximately as the following:

- 210 MW north and north east of Beaver Creek substation
- 120 MW to load centers south west of Beaver Creek substation
- 140 MW to load centers around and south of Beaver Creek substation

- 20 MW to load centers (including Star Fire mine) north west of Beaver Creek substation.

The effect of the Project's generation on the transmission security has been studied by evaluating the system security with single line outages in the surrounding area of the Project's generation. None of the evaluated contingencies create overloads that require hardware mitigation. The outage of Clinch River – Lebanon 138 kV line creates an overload in Clinch Field -Fletchers Ridge 138 kV line The line is overloaded to 104% of its normal rating The overload can be mitigated by running back the Project's generation from 500 MW to 390 MW

1000 MW Project's Generation Tapped to the 138 kV System

The Project's generation of 1000 MW is tapped to Baker-Broadford 765 kV line at an equal distance between Baker and Broadford substations. A new double circuit 345 kV transmission line and two 345/765 kV transformers are required to carry the Project's generation to neighboring load centers and electric utilities The double circuit 345 kV transmission line is about 30 miles long and each circuit is of 1000 MVA normal rating. The 345/765 kV transformers are assumed to have a normal rating of 500 MVA.

The new generation does not create any new overloads in the AEP system and ECAR region The Project's generation is carried through the 765 kV lines and then through the 138 kV system to load centers located in the north and north east of Beaver Creek substations. Also the Project's generation increases AEP exports to neighboring utilities.

Single circuit outage condition results also show that the Project's generation does not create overloads that are not created by the same contingencies when tested with the base case without the Project's generation.

The impact of proposed future generation projects on the Project's generation has been also evaluated and results show the proposed future projects have no major impact on the transmission system when evaluated with the Project's generation.

Conceptual transmission and substation designs are developed and evaluated to connect the Project's generation with the existing power grid. Two interconnection options are developed for the 500 MW Project's generation and another two interconnection options are also developed for the 1000 MW Project's generation at the Star Fire site.

500 MW Generation: Option A

This interconnection option, Exhibit B-24, is evaluated in Section 5.3. The cost estimate for this interconnection is based on

- Building a new 138-kV switchyard at the plant, 5 breaker ring bus.

- Upgrading the existing transmission line to Beaver Creek.
- Building a new double circuit 138-kV transmission line to Beaver Creek. It is preferable on a reliability basis to build on an independent corridor.
- Building a new 3 breaker 138 kV ring bus at Beaver Creek substation to connect the new double circuit to the grid.

The cost for this interconnection option is estimated to be $11,700,000. This interconnection option has the lowest cost of all the interconnection options and it allows the Project's generation to reach local loads in the Project's surrounding area. This interconnection limits the Project's generation to a practical limit of 500 MW.

500 MW Generation: Option B

This interconnection option, Exhibit B-25, is developed to examine the impact of tapping the Beaver Creek – Cedar Creek 138 kV line to the Broadford – Baker 765 line to examine the possibility of providing wider market to for the 500 MW Project's generation. The cost estimate for this interconnection is based on:

- Building a new 138-kV switchyard at the plant, 5 breaker ring bus
- Upgrading the existing transmission line to Beaver Creek.
- Building a new double circuit 138-kV transmission line to Beaver Creek. It is preferable on a reliability basis to build on an independent corridor.
- Building a new 3 breaker 138 kV ring bus at Beaver Creek substation to connect the new double circuit to the grid.
- Build a new substation at the junction of the existing 138-kV and the existing 765-kV transmission lines located approximately 10 miles east of Beaver Creek. The substation consists of a 138-kV breaker, a 138-765-kV transformer and a 3 breaker 765-kV ring bus.

The cost for this interconnection option is estimated to be $25,250,000. This case allows the Star Fire Project to access the 138-kV transmission grid and the 765-kV transmission grid In addition to the extra cost of Option B compared to option A, this option will also give the power flowing in the 765 kV line an access to the local load centers.

1000 MW Generation: Option A

This interconnection option, Exhibit B-28, is evaluated in Section 5.4. The cost estimate for this interconnection is based on

- Building a new 345-kV switchyard at the plant, 6 breaker ring bus
- Building a new double circuit 345-kV transmission line to the existing 765-kV transmission corridor utilizing existing corridors.
- Building a new substation at the junction of the existing 765-kV transmission lines The substation consists of a 4 breaker 345-kV ring bus, 2, 345-765-kV

transformers and a 4 breaker 765-kV ring bus.

The cost for this interconnection option is estimated to be $44,900,000. The cost estimate is based on the cost estimates of hardware equipment shown in Table A-9. This case allows the Star Fire Project to access the existing 765-kV transmission grid.

1000 MW Generation: Option B

This option, Exhibit B-29, may be considered as a second stage of the Project to increase the generation capacity of Option A from 500 MW to a 1000 MW The cost estimate for this interconnection is based on:

- Building a new 345-kV switchyard at the plant, 3 breaker ring bus.
- Building a new single circuit 345-kV transmission line to the existing 765-kV transmission corridor utilizing existing corridors.
- Building a new substation at the junction of the existing 765-kV transmission lines. The substation consists of a 345-kV breaker, 1, 765-kV transformer and a 3 breaker 765-kV ring bus

The cost for this interconnection option is estimated to be $ 30,625,000. This option allows the expansion of the 500 MW generation Option A to 1000 MW of which 500 MW can access the 765-kV transmission grid. However, any outage on this option single circuit 345 kV transmission line or the 345/765 transformer will require running back the Project's generation from 1000 MW to 500 MW.

2.0 PURPOSE / SCOPE

2.1 PURPOSE

The purpose of this report is to document a Transmission Interconnection Study for Enviro Power's coal fire CFB generation project ("Project") in the Star Fire mine located in Eastern Kentucky near Hazard, KY. The study also evaluates the technical and cost considerations for alternate conceptual designs for connecting the Project's generation to the American Electric Power (AEP) grid.

2.2 SCOPE

The scope of this study includes the following:

- Perform base case load flow calculations without the Project's generation to identify existing congestion issues (abnormal voltages, line/ transformers overloads) in the Project's surrounding area.

- Perform load flow calculations with 500 MW Project's generation connected to the 138 kV system to identify new congestion issues that do not exist in the base case without the Project's generation. Necessary upgrades to mitigate the identified congestion issues will be determined
- Perform load flow calculations with 1000 MW Project's generation connected to the 765 kV system to identify new congestion issues that do not exist in the base case without the Project's generation. Necessary upgrades to mitigate the identified congestion issues will be determined.
- Perform single contingency screening in the Project's surrounding area for the two Project's generation options (500 MW and 1000 MW) to identify congestion issues and to determine the necessary additional upgrades (if any) required to mitigate the identified congestion issues during contingencies. The amount of generation runback necessary to resolve the overload problem will be quantified, where applicable.
- Evaluate the impact of proposed future generation projects in the surrounding region on the Project's generation.
- Propose alternate conceptual designs to connect the Project's generation to AEP grid including needed grid reinforcements. Also budgetary cost estimates for the specified conceptual designs will also be provided.

The power system database published by ECAR in response to Federal Energy Regulatory Commission (FERC) Form 715 requirements is used to perform the computer simulations. The summer peak of year 2003 is chosen as the base case for this study.

The scope of this work does not include the evaluation of the impact of the Project's generating plant on system stability and short circuit levels. The need to replace circuit breakers at existing substations is beyond the scope of this analysis. Also the scope does not include evaluating the impact of single contingencies with planned outages whose overloads mitigation may require the redispatch of ECAR generation based on established generation dispatch procedures. These issues can only be addressed by the utility in their System Impact Study.

3.0 INPUT DATA / ASSUMPTION

3.1 INPUT DATA

3 1.1 East Center Area Reliability (ECAR) Document No 1, " Reliability Criteria for Evaluation and Simulated Testing of the ECAR Bulk Power Supply Systems" [7.3] The document defines standards to adhere to in order to insure reliable transmission performance in ECAR region.

3 1.2 This study relies exclusively on data available from public sources. The main source of data for power system configuration and system loading is the power

system database published by ECAR in response to the FERC Form 715 requirements. Hence, the load flow input database for year 2003 Summer Peak of the ECAR region was downloaded from FERC Filing Form 715 web page [7.2].

3.1 3 The configuration of the 138 kV, 162 kV, 345 kV, 500 kV and 765 kV systems of the region was obtained from maps published by ECAR [7.4], [7.5] and from the information contained in the FERC database.

3.2 ASSUMPTIONS

The ECAR data file published by FERC reflects the anticipated system loading and configuration for the year 2003.

4.0 METHODOLOGY AND ACCEPTANCE CRITERIA

4.1 METHODOLOGY

PowerWorld Simulator computer program [7.1] is used to perform all power flow studies in this report and to determine the impact of the Project's generation on the transmission system. This program can directly execute power flow data files that are downloaded from the FERC Web page.

The following methodology is followed in this study:

- The transmission network in the Project's surrounding area is screened by running power flow studies without the Project's generation. The transmission line and transformer loadings are monitored to detect any possible violations under normal conditions.

- The Project's 500 MW generation is added at the interconnection point (Harbert Metering 138 kV substation) with the necessary upgrades and transmission line additions.

- Due to the 2800 MW expected generation deficiency in portions of ECAR region [7 5], the proposed generation addition is dispatched against ECAR imports/exports rather than against other existing generation in the region In other words, the new capacity addition is dispatched against the slack bus of the system. The slack bus* of the ECAR system is located in TVA region (bus name is "2N BFN" and its number is 18136).

* A reference bus which compensates for the difference between system generation and load plus losses

- After adding the new generating capacity, the transmission network is screened by running power flow studies. The transmission line and transformer loadings are monitored throughout the system to detect any possible violations under normal conditions that have not existed in the base case without the Project's generation and occur as a result of adding the Project's generation.

- The impact of the Project's generation on the transmission system is evaluated by running a series of power flow studies in order to reflect immediate transmission line outages around the proposed new generation. Also the study determines the derated MW (generation run back) output of the new generation, which will preserve the system security during single transmission line contingencies or required network modifications and upgrades to correct system weak points.

- The Project's 1000 MW generation is to tapped to the Baker-Broadford 765 kV line with the necessary upgrades and transmission line additions. The above evaluation steps are repeated for this generation option.

- The impact of proposed future generation projects that are not included in ECAR 2003 Summer Peak database are evaluated by running power flow cases and monitoring the transmission system in each case. Each power flow case includes the Project's generation with a proposed generation project.

- Alternate conceptual designs to interconnect the Project's generation to AEP grid are proposed and evaluated based on their cost estimate and technical merits.

4.2 ACCEPTANCE CRITERIA

The acceptance criteria for installing the new generation is to preserve the system steady state security, i.e. keep voltages between 0.95 and 1.05 per unit, and line flows in the transmission lines and transformers under their normal limits as indicated by Standard 1 in [7.3]. The normal limits of transformers and-transmission lines are contained as part of the ECAR power flow database [7.2].

The acceptance criteria used in evaluating the Project's generation impact on the transmission system is to preserve the system steady state security under single contingency conditions. Standard 2 of [7.3] indicates that under single contingency line and equipment loading shall be within the applicable rating (long term emergency rating). The line and equipment long term emergency ratings are contained as part of the ECAR power flow database [7 2]. Any single contingency that causes an overload that is within the long term emergency rating will be alleviated by running back the Project's generation or changing the network configuration. Overloads that are above their long term emergency rating will require a hardware mitigation solution to alleviate the overload.

5.0 EVALUATION

5.1 Project Location

The Star Fire mine is located near Hazard city in east Kentucky Exhibit B-1 shows a geographical map of the region surrounding the Star Fire mine as obtained from the Resource Data International database POWERmap database[7.6]. As shown in the map, The closed transmission facilities to the mine are Beaver Creek 138 kV substation and Bakr-Broadford 765 kV transmission line. The distance between the Star Fire mine and Beaver Creek substation is about 25 miles. The closest distance between the mine and Baker-Broadford 765 kV transmission line is almost the middle point between the Baker and Broadford substation and it is 26 miles away from the Star Fire mine. The distance between the mine and Big Sandy (baker) substation is about 65 miles. Beaver Creek substation is also about 10 miles west of the AEP 765 kV lines between Broadford and Baker 765 kV substations.

The 500 MW Project's generation option will be evaluated by tapping it to the Harbert Metering (05HARBER) 138 kV substation that is modeled in the ECAR database. The substation is fed by a 138 kV transmission line connected to Beaver Creek 138 kV substation. The line is also tapped to feed Yellow Mountain (05YELLMT) and Consolidate Coal Tap (05CONSTP) 138 kV substations. The 138 kV line has a normal rating of 143 MVA for the line segment connecting Beaver Creek with Consolidated Coal Tap substations and 258 MVA normal rating for the line segments between Consolidated Coal Tap and Herbert Metering substations. The Harbert Metering substation includes a 12 MW load as modeled in ECAR database. The Beaver Creek substation is the major 138 kV AEP substation in the Start Fire area. The substation includes six 138 kV transmission lines that carry the power from neighboring area generation stations to feed load centers around Beaver Creek. The 1000 MW Project's generation option will be evaluated by tapping the generation to the Baker-Broadford 765 kV line The line normal rating in ECAR database is 4164 MVA.

5.2 Transmission Evaluation for the Base Case without the Project's Generation

The Project's generation at the Star Fire mine will be interconnected to the AEP transmission grid. AEP is a member of ECAR and its generation and transmission systems must be in compliance with ECAR reliability standards. Therefore, this study is based on the power flow model of the ECAR filing of the FERC 715, which includes in its model all ECAR members ECAR system load, generation and losses in the base case power flow solution are:

System Load: 531858.1 MW

System Generation: 545160.0 MW
Losses: 10608.12 MW
MW shunts: 2693.9 MW

The AEP control area load, generation, interchange and losses are:

AEP area load: 23506.99 MW
AEP area generation: 24735.79 MW
AEP area interchange: 530.99 MW (export)
AEP area losses: 697.86 MW

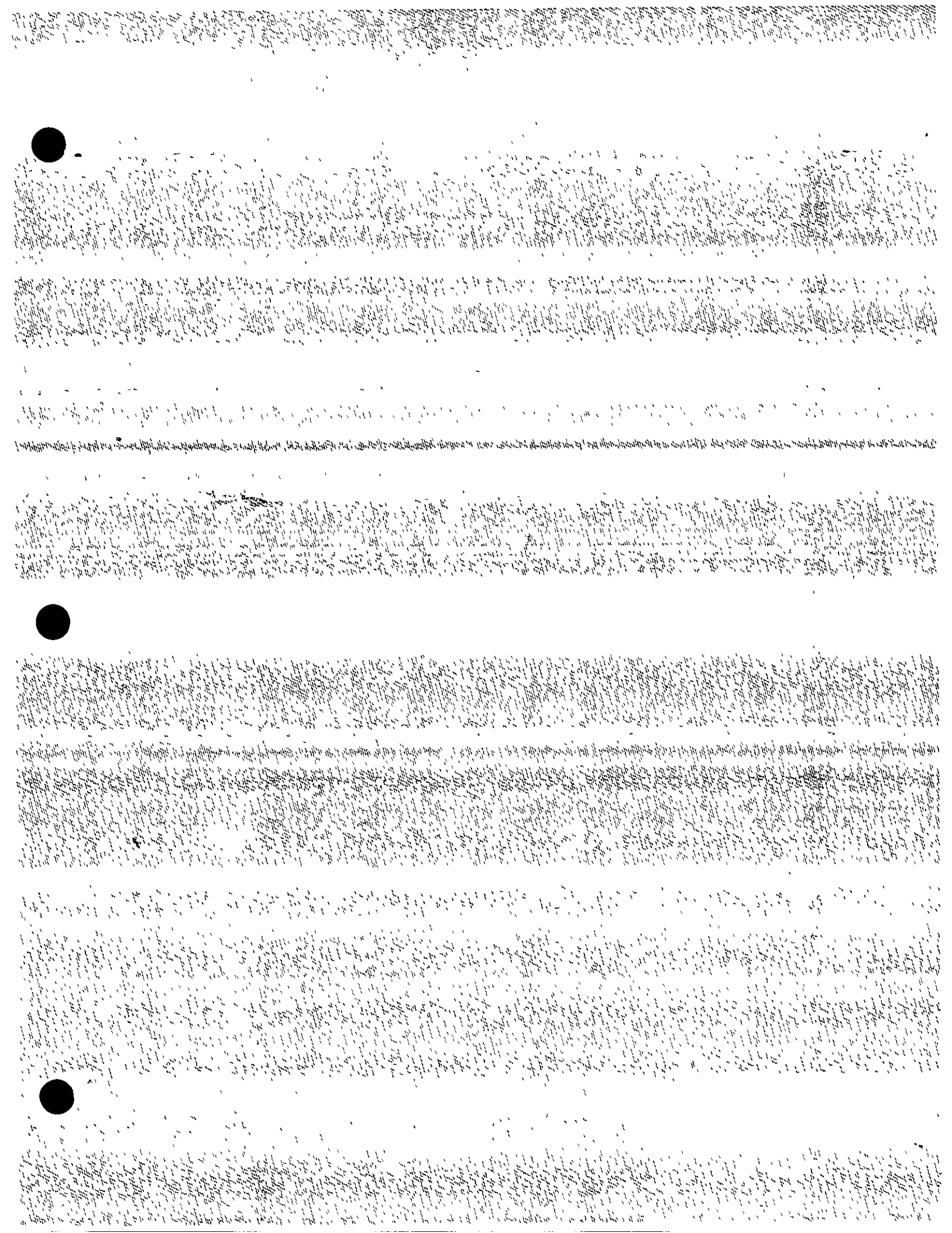
ECAR 2003 Summer peak database includes new generation records that are not included in the ECAR 2000 Summer Peak database. The new generation records are in the database to model future generation projects. Table A-1 shows the list of new generation records in the ECAR 2003 database.

The power flow database representing AEP area is divided into several zones. Each zone usually includes substations, loads and generations in the same geographic area. The Beaver Creek 138 kV substation is located south of AEP-KP zone that is defined in the ECAR database. The zone total generation and load are:

AEP-KP generation: 260 MW
AEP-KP load: 1334.7 MW
AEP-KP losses. 34.87 MW

The AEP-KP generation consists of the Big Sandy generation plant that is located north of the zone. Most of the load centers in AEP-KP zone are located in the north and north east of the zone. Table A-2 and Exhibit B-2 approximately show the locations of the load centers in the AEP-KP zone with respect to Beaver Creek substation. The load in AEP-KP zone is served by power flowing into the zone from generation located in neighboring zones as shown in the Exhibit B-3. Most of the power flowing into this zone comes from AEP-AP zone whose generation resources include an 800 MW plant in Baker substation located north of AEP-KP zone and a 690 MW generation plant in Clinch River substation located south east of AEP-KP zone The generation and load balance in the AEP-KP zone shows that there is a potential local load market for future generation project in that area.

Exhibit B-4 shows the base case power flows in Beaver Creek 138 kV transmission lines. The exhibit shows both the line MW flows (in black) and the line MVA ratings (in italic) Table A-3 lists Beaver Creek 138 kV transmission lines and their normal and long term emergency MVA limits. The total of the summer normal ratings (more conservative than the winter rating) of Beaver Creek lines is 1006 MVA This total does not include the rating of the Beaver Creek – Consolidated Coal Tap (first line in Table A-3). Taking into account first contingency requirements and necessary upgrades and



line additions between Star Fire and Beaver Creek substations, the ratings of the Beaver Creek 138 kV lines show that the lines can carry the 500 MW Project's generation in Start Fire mine to load centers in the surrounding region.

Exhibit B-5 shows the base case power flows in the 138 kV system in the Star Fire mine surrounding area without the Project's generation. Exhibit B-6 also shows power flows in the 138 kV lines and 765 kV lines in the east Kentucky region. Table A-4 shows the substation names associated with the buses shown in the exhibits included in this report.

Table A-5 shows Transmission lines/transformers with loadings above 100% of their normal ratings in ECAR region The power flows in the 138 kV lines around the Beaver Creek substation are all below their normal ratings. Only three lines in AEP-KP zone are loaded above 80% of their normal limes

- Stinnett (AEP) – 5PINEVIL (TVA) 161 kV tie line between AEP and TVA is 97 % loaded at 172 MVA normal rating.
- Stinnett – Leslie 161 kV line is 80 % loaded at 182 MVA normal rating.
- Tri State – Kenova 138 kV line is 83 % loaded at 258 MVA normal rating.
- Tri State – Chadwick 138 kV line is 99% loaded at 220 MVA rating.

These base case overloads are listed here for information only and the impact of the Project's generation on these equipment are observed in this study.

Finally, Exhibit B-7 shows AEP interchanges with neighboring electric utilities in the base case without the Project's generation. Table A-6 includes a summary of the AEP Interchanges with neighboring control areas and definitions of the control area acronyms are also included. In addition to the loads in AEP, loads in AEP neighboring utilities can be markets for the Project's generation. However, the Project's generation market accessibility, that is not in the scope of this study, to other utilities depends on the transfer capabilities of the interfaces between the electric utilities.

5.3 Transmission Evaluation for 500 MW Project's Generation Tapped to the 138 kV System

The Project's generation of 500 MW is tapped to Harbert Metering 138 kV substation. A new double circuit 138 kV transmission line connecting Harbert Metering to Beaver Creek is created and added to the database. The new transmission line should have a normal rating that is sufficient to carry the Project's generation during normal conditions. In addition, the transmission connection should be capable of handling single contingencies within its long term emergency rating, and minimize the magnitude of generation dispatch limitation due to these contingencies. The transmission line is about 25 miles long and each circuit is assumed to have a 258 MVA normal rating and impedance of 0 01267 per unit resistance and 0.08401 [7.7] per unit reactance. The line

ratings, parameters and X/R ratio are consistent with the ratings and parameters of other 138 kV lines in the Project's surrounding area.

Exhibit B-8 shows the power flow solutions with the Project's generation in the Beaver Creek 138 kV lines The power flow solutions show that the new generation does not create any new overloads in the AEP system and ECAR region except for the overload in Beaver-Creek – Consolidated Coal Tap 138 kV line. The line is overloaded to 120 % of its 143 MVA normal rating The line overload is also above the line 151 MVA long term rating. The interconnection of the Project's generation to the 138 kV system requires the reconductoring of the Beaver Creek – Consolidated Coal Tap 138 kV line to increase it MVA normal rating similar to the Consolidated Coal Tap – Harbert Metering line segments normal rating. Exhibit B-9 and B-10 show the power flows in Beaver Creek 138 kV lines and the 138 kV system with Beaver Creek – Consolidated Coal Tap 138 kV line rating upgrade.

Table A-7 shows transmission lines/transformers with loadings above 100% of their normal ratings in ECAR region. All the overloads (except the Beaver Creek – Consolidated Coal Tap 138 kV line overload) that are shown in this table also exist in the power flow solution for the base case without the Project's generation (Table A-5).

The transmission losses in the transmission line between Beaver Creek and Harbert Metering (the Project's site) substations are:

- Harbert Metering – Beaver Creek 138 kV line (circuit 1): 3.0 MW and 20.0 MVAR losses
- Harbert Metering – Beaver Creek 138 kV line (circuit 2): 3.0 MW and 20.0 MVAR losses
- Harbert Metering – Yellow Mountain 138 kV line: 1.2 MW and 7 0 MVAR losses
- Yellow Mountain – Consolidated Coal Tap 138 kV line· 0.5 MW and 2.8 MVAR losses
- Consolidated Coal Tap – Beaver Creek 138 kV line: 1.8 MW and 10.5 MVAR losses.

The Project's generation has a positive impact on the loading of the following AEP-KP zone transmission lines that are congested in the base case without the Project's generation:

- Stinnett (AEP) – 5PINEVIL (TVA) 161 kV tie line between AEP and TVA is 53 % loaded at 172 MVA normal rating (97% loaded at the base case without the Project's generation)
- Stinnett – Leslie 161 kV line is 39 % loaded at 182 MVA normal rating (80 % loaded at the base case without the Project's generation)

The power flow solution and Exhibits B-9 and B-10 show that the 500 MW Project's generation is carried through the 138 kV system to load centers approximately as the following:

- 210 MW north and north east of Beaver Creek substation
- 120 MW to load centers south west of Beaver Creek substation
- 140 MW to load centers around and south of Beaver Creek substation
- 20 MW to load centers (including Star Fire mine) north west of Beaver Creek substation.

The 500 MW Project's generation reduces power flows into the AEP-KP zone from the surrounding zones. It mainly reduces the power flowing from AEP-AP zone from 835 MW in the base case without the Project's generation to 449 MW as shown in Exhibit B-11. Also the Project's generation increases the AEP exports to neighboring utilities and decreases its imports as shown in Table A-6 The net AEP interchanges has increased from 530 MW export in the base case without the Project's generation to 1034 MW export.

The effect of the Project's generation on the transmission security has been studied by evaluating the system security with single line outages in the surrounding area of the Project's generation. The most limiting single contingencies are:

- **Beaver Creek – Topmost 138 kV line outage**: The outage creates an overload in the Stinnett (AEP) – 5PINEVIL (TVA) 161 kV tie line between AEP and TVA. The line is overloaded to 123 % of the 172 MVA normal rating as shown in Exhibit B-12. The overload is above the line 172 MVA long term emergency rating of the line (the line normal and emergency rating are the same in ECAR database). However, in the base case without the Project's generation the contingency causes the same line to be overloaded to 132% of its normal rating and an 102% overload in Stinnett – Leslie 161 kV line that is not created when the contingency occurs with the Project's generation, as shown in Exhibit B-13. The overloads caused by this contingency should not be considered for mitigation because higher overloads are created by the contingency in the base case without the Project's generation.
- **Stinnett-Leslie 161 kV line Outage:** The most limiting element of this outage is the overload in Beaver Creek –Topmost 138 kV line. The line is overloaded to 128% of the 153 MVA normal rating as shown in Exhibit B-14. The overload is 2 MVA above the long term emergency limit However in the base case without the Project's generation the contingency causes the same line to be overloaded at 126% of its normal rating, , as shown in Exhibit B-15. The overloads caused by this contingency should not be considered for mitigation because almost the same overloads is created by the contingency in the base case with and without the Project's generation.
- **Clinch River – Lebanon 138 kV line**: The outage creates an overload in Clinch

Field - Fletchers Ridge 138 kV line. The line is overloaded at 104% of its normal rating as shown in Exhibit B-16. The overload is within the 192 MVA long term emergency rating of the line. The overload can be mitigated by running back the Project's generation to 390 MW as shown in Exhibit B-17.

Finally the 500 MW Project's generation has also been evaluated by dispatching the generation against AEP generation and not ECAR imports and exports. The power flow solutions show that dispatching the Project's generation against the AEP generation has minimal impact on the power flowing in the Project's surrounding area.

5.4 Transmission Evaluation for 1000 MW Project's Generation Tapped to the 765 kV System

The Project's generation of 1000 MW is tapped to Baker-Broadford 765 kV line at an equal distance between Baker and Broadford substations The Project's generation is connected to the 765 kV line by double circuit 345 kV transmission line and two 345/765 kV transformers that are added to the database. The new transmission line should have a normal rating that is sufficient to carry the Project's generation during normal conditions. In addition, the transmission connection should be capable of handling single contingencies within its long term emergency rating, and minimize the magnitude of generation dispatch limitation due to these contingencies. The double circuit 345 kV transmission line is about 35 miles long and each circuit is assumed to have a normal rating of 1000 MVA. The 345/765 kV transformers must have a minimum normal rating of 500 MVA.

Exhibit B-18 shows the power flow solution in the 765 kV and 138 kV systems in the Project's surrounding area. The power flow solutions show that the new generation does not create any new overloads in AEP system and ECAR region. Table A-8 shows Transmission line/transformer with loadings above 100% of their normal ratings in ECAR region. All the overloads that are shown in this table already exist in the power flow solution for the base case without the Project's generation (Table A-5).

The 1000 MW Project's generation increases the loading of Bearskin (AEP) – Bearskin (VP) 138 kV line to 100% of its 60 MVA normal rating. The line is 92% loaded at base case without the Project's generation. The reactance of the line of the line in the database is 0.00001 per unit (0 00194 ohm). Assuming that 0.8 ohm/mile is the reactance of the 138 kV line [7 7], the estimated length of the line is 13 feet and this is indication that the line is short line section connecting two buses within Bearskin substation. The cost of reconductoring the line, if required, to reduce its load will not be substantial

The 1000 MW Project's generation reduces power flows into AEP-KP zone from the surrounding zones. It mainly reverses the power flowing from AEP-AP zone into AEP-KP zone from 835 MW to 126 MW power flowing out of AEP-KP zone to AEP-AP zone as shown in Exhibit B-19 Also the Project's generation increases AEP exports to

neighboring utilities and decreases its imports as shown in Table A-6. The net AEP interchanges has increased from 530 MW export in the base case without the Project's generation to 1034 MW export.

The effect of the Project's generation on the transmission security has been studied by evaluating the system security with single line outages in the surrounding area of the Project's generation. The most limiting single contingencies are:

- **Broadford – Jacksons Ferry 765 kV line Outage:** The outage of this line creates the following overloads as shown in Exhibit B-20.
  - Broadford – Smyth 138 kV line is overloaded to 136 % of its 209 MVA normal rating The overload is within the line 346 MVA long term emergency rating of the line. The contingency at the base case without the Project's generation overloads the same line to 126 % of its normal rating.
  - Smyth – Atkins 138 kV line is overloaded to 124 % of its 209 MVA normal rating. The overload is within the 346 MVA long term emergency rating of the line. The contingency at the base case without the Project's generation overloads the same line to 114 % of its normal rating.

  No hardware mitigation is required to mitigate the above overloads since the overloads are within the long term emergency rating. The overloads caused by this contingency can be alleviated by opening Broadford – Baker 765 kV line as shown in Exhibit B-21.

- **Big Sandy – Baker 138/345 kV transformer:** The outage of this line creates an overload in the Tri State – Chadwick 138 kV line as shown in Exhibit B-22. The line is overloaded to 123% of the 220 MVA normal rating. The overload is within the line 309 MVA long term emergency rating of the line. The contingency at the base case without the Project's generation overload the same line to 120 % of its normal rating as shown on Exhibit B-23 No mitigation is recommended here because the contingency creates almost the same overloads in the base case with and without the Project's generation.

Finally the 1000 MW Project's generation has also been evaluated by dispatching the generation against AEP generation and not ECAR imports and exports. The power flow solutions show that dispatching the Project's generation against the AEP generation has minimal impact on the power flowing in the Project's surrounding area.

5.5 Impact of Proposed Future Generation Projects on the Project's generation

In addition to the new the generation projects that are shown in Table A-1 and are included in the ECAR 2003 Summer Peak case, the impact of proposed future generation projects, that are not included in the ECAR 2003 Summer Peak database, on the Project's generation have been studied by running power flow cases. Each case includes a

proposed generation project with the Project's generation. The following is a list of proposed generation projects as obtained from the Resource Data International Web page [7.6] and their impacts on the Project's generation:

- Project Developer: East Kentucky Power Coop Inc.
  - Plant name: Hazard
  - State: Kentucky
  - City: Hazard
  - Capacity: 250 MW
  - Online date: 2003
  - Effect on the Project's generation: No effect
- Project Developer: Dynergy, Inc
  - Plant name: Dynergy-Bluegrass
  - State: Kentucky
  - City: Buckner
  - Capacity: 324 MW
  - Online date: 2001
  - Effect on the Project's generation: No effect
- Project Developer: Enron Capital and Trade Resources Corporation
  - Plant name: Calvert
  - State: Kentucky
  - City: Calvert
  - Capacity: 500 MW
  - Online date: 2000
  - Effect on the Project's generation: No effect
- Project Developer: Cogentrix, Inc
  - Plant name. Bedford
  - State: Indiana
  - City: Bedford
  - Capacity: 500 MW
  - Online date: 2002
  - Effect on the Project's generation: No effect
- Project Developer: DPL Energy, Inc.
  - Plant name: Dark County
  - State: Ohio
  - City: Greenville
  - Capacity: 200 MW
  - Online date: 2000
  - Effect on the Project's generation: No effect
- Project Developer: Global Energy, Ltd
  - Plant Name: Lima Project

- State: Ohio
- City: Lima
- Capacity: 540 MW
- Online date: 2002
- Effect on the Project's generation: Increases the loading in Bearskin (AEP) – Bearskin (VP) 138 kV line to 100% of its normal rating. Also it increases the loading on Twin Branch (AEP) – Kline (AEP) to 100% of its normal rating.

- Project Developer: LS Power, L.L.C
  - Plant name: Columbus
  - State: Indiana
  - City: Columbus
  - Capacity: 800 MW
  - Online date: 2002
  - Effect on the Project's generation: Increases the loading in Bearskin (AEP) – Bearskin (VP) 138 kV line to 101% of its normal rating.
- Project Developer: Duke Energy North America
  - Plant name: Desoto
  - State: Indiana
  - City: Desoto
  - Capacity: 640 MW
  - Online date: 2001
  - Effect on the Project's generation: Increases the loading in Bearskin (AEP) – Bearskin (VP) 138 kV line to 100% of its normal rating.
- Project Developer: Columbus Power Partners
  - Plant name: Columbus
  - State: Ohio
  - City: Coulombs
  - Capacity: 220 MW
  - Online date: 2001
  - Effect on the Project's generation: No effect
- Project Developer: Toledo Edison Co
  - Plant name: Defiance
  - State: Ohio
  - City: Defiance
  - Capacity: 390 MW
  - Online date: 2000
  - Effect on the Project's generation: No effect
- Project Developer: Dominion Energy, Inc.
  - Plant name: Wood County
  - State: Ohio

- City. Luckey
- Capacity: 600 MW
- Online date: 2002
- Effect on the Project's generation. Increases the loading in Bearskin (AEP) – Bearskin (VP) 138 kV line to 100% of its normal rating.

5.6 Transmission Grid Connection: Conceptual Designs and Cost Estimates

The results of the Transmission Interconnection Study for the Project's generation described in the previous sections show that it is feasible to interconnect a 500 MW Project's generation to the 138 kV system or a 1000 MW Project's generation to the 765 kV system. The cost of the Project's interconnection to the AEP grid is another factor that should be considered.

It was determined that it would be desirable for the Project's generation to connect to the Beaver Creek, 138-kV substation and/or AEP's 765-kV transmission line. The 765-kV transmission line is an attractive option since it provides a larger market for the Project's generation. The 765-kV line and the 138-kV substation are the nearest facilities to the Project. The use of existing facilities and corridors will be the most economical option for the Project.

The Beaver Creek substation is located approximately 25 miles east of the Star Fire site. A single circuit 138-kV transmission line that has a terminal at Beaver Creek serves the Project area. The transmission line corridor passes within 2 miles of the Star Fire site.

Conceptual transmission and substation designs are developed and evaluated to connect the Project's generation with the existing power grid. Two interconnection options are developed for the 500 MW Project's generation and another two interconnection options are also developed for the 1000 MW Project's generation at the Star Fire site.

5.6.1 500 MW Generation: Option A

This interconnection option, Exhibit B-24, is evaluated in Section 5.3. The cost estimate for this interconnection is based on:

- Building a new 138-kV switchyard at the plant, 5 breaker ring bus. 2.0 m
- Upgrading the existing transmission line to Beaver Creek. 3.0 m
- Building a new double circuit 138-kV transmission line to Beaver Creek. It is preferable on a reliability basis to build on an independent corridor 13.0
- Building a new 3 breaker 138 kV ring bus at Beaver Creek substation to connect the new double circuit to the grid. 1.5

19.5

The cost for this interconnection option is estimated to be $11,700,000. The cost estimate is based on the cost estimates of hardware equipment shown in Table A-

9.

This interconnection option has the lowest cost of all the interconnection options and it allows the Project's generation to reach local loads in the Project's surrounding area. This interconnection limits the Project's generation to a practical limit of 500 MW.

5.6.2 500 MW Generation: Option B

This interconnection option, Exhibit B-25, is developed to examine the impact of tapping the Beaver Creek – Cedar Creek 138 kV line to the Broadford – Baker 765 line to examine the possibility of providing wider market to for the 500 MW Project's generation. The cost estimate for this interconnection is based on:

- Building a new 138-kV switchyard at the plant, 5 breaker ring bus 2.0
- Upgrading the existing transmission line to Beaver Creek. 3.0
- Building a new double circuit 138-kV transmission line to Beaver Creek. It is preferable on a reliability basis to build on an independent corridor. 13.00
- Building a new 3 breaker 138 kV ring bus at Beaver Creek substation to connect the new double circuit to the grid. 1.5
- Build a new substation at the junction of the existing 138-kV and the existing 765-kV transmission lines located approximately 10 miles east of Beaver Creek. The substation consists of a 138-kV breaker, a 138-765-kV transformer and a 3 breaker 765-kV ring bus. 4.0 2.1 5.0

30.6

The cost for this interconnection option is estimated to be $25,250,000 The cost estimate is based on the cost estimates of hardware equipment shown in Table A-9. This case allows the Star Fire Project to access the 138-kV transmission grid and the 765-kV transmission grid.

The power flow solutions show that tapping the Beaver Creek – Cedar Creek 138 kV line to the Broadford-Baker 765 kV line will allow the power flowing in the 765 kV line to access load centers in Beaver Creek surrounding area as shown in Exhibits B-26 and B-27. Exhibit B-26 shows that 124 MW is flowing into the Cedar Creek substation all of which is coming from the Beaver Creek substation that carries the Project's generation When tapping Beaver Creek – Cedar Creek line to the 765 kV line, Exhibit B-27, 190 MW flow is flowing into Cedar Creek substation of which only 56 MW coming from Beaver Creek substation and 134 MW coming from the power flowing into the Broadford-Baker 765 kV line. In addition to the extra cost of Option B compared to option A, this option will also give the power flowing in the 765 kV line an access to the local load centers.

5.6.3 1000 MW Generation: Option A

This interconnection option, Exhibit B-28, is evaluated in Section 5.4. The cost estimate for this interconnection is based on:

- Building a new 345-kV switchyard at the plant, 6 breaker ring bus.
- Building a new double circuit 345-kV transmission line to the existing 765-kV transmission corridor utilizing existing corridors.
- Building a new substation at the junction of the existing 765-kV transmission lines. The substation consists of a 4 breaker 345-kV ring bus, 2, 345-765-kV transformers and a 4 breaker 765-kV ring bus.

The cost for this interconnection option is estimated to be $44,900,000. The cost estimate is based on the cost estimates of hardware equipment shown in Table A-9. This case allows the Star Fire Project to access the existing 765-kV transmission grid.

This interconnection option has the highest cost of all the interconnection options but it allows the development of a generation project of a 1000 MW capacity instead of the 500 MW limitation when the Project's generation is connected to the 138 kV system This interconnection also allows the Project's generation to reach both the local load centers and load centers in neighboring zones and regions.

5.6.4 1000 MW Generation: Option B

This option, Exhibit B-29, may be considered as a second stage of the Project to increase the generation capacity of Option A from 500 MW to a 1000 MW. The cost estimate for this interconnection is based on:

- Building a new 345-kV switchyard at the plant, 3 breaker ring bus.
- Building a new single circuit 345-kV transmission line to the existing 765-kV transmission corridor utilizing existing corridors.
- Building a new substation at the junction of the existing 765-kV transmission lines The substation consists of a 345-kV breaker, 1, 765-kV transformer and a 3 breaker 765-kV ring bus

The cost for this interconnection option is estimated to be $ 30,625,000. The cost estimate is based on the cost estimates of hardware equipment shown in Table A-9. This option allows the expansion of the 500 MW generation Option A to 1000 MW of which 500 MW can access the 765-kV transmission grid. However, any outage on this option single circuit 345 kV transmission line or the 345/765 transformer will require running back the Project's generation from 1000 MW to 500 MW

Table A-11 shows a summary of the interconnection options discusses in this section.

6.0 LIMITATIONS

The results of this report are entirely based on the FERC 715 power flow database for the generation dispatching and transmission line representations. Conclusions of the interconnection study, which will be performed by ComEd once the generation plans are filed, may be different than the conclusions of this study if a different dispatching strategy is adopted and/or a different transmission network is represented.

Also the results of this study are limited by it scope that does not include the evaluation of the impact of the Project's generating plant on system stability, short circuit level, and the need to replace circuit breakers at existing substations is beyond the scope of this analysis. Also the scope does not include the impact of evaluating the impact of single contingencies with planned outages whose overloads mitigation require the redispatch of ECAR generation based on established generation dispatch procedures These issues can only be addressed by the utility in their System Impact Study.

7.0 REFERENCES

7 1 PowerWorld Simulator V5.0
7 2 Federal Energy Regulatory Commission (FERC) Filing Form 715 web page at: "http://www.ferc fed.us/electric/F715/Form715 htm".
7 3 East Central Area Reliability (ECAR) Document No. 1, "Reliability Criteria for Evaluation and Simulated Testing of the Bulk Electric Systems", July 1998
7.4 ECAR Transmission Map.
7.5 ECAR,"ECAR2003Summer Assessment of Transmission System Performance", May 1999.
7 6 Resource Data International, POWERmap datbase.
7.7 Westinghouse Electric Corporation, " Electrical Transmission and Distribution Reference Book", 1964.
7 8 Resource Data International, Energy Insight Web site, "http://hood.resdata.com/insight/MIND/Power/merch_plant/plantby.asp"

Appendix A: LIST OF TABLES

Table A-1: ECAR 2003 Summer Peak Database New Generation (Not included in ECAR 2000 Base Case)

Utility	Generator Bus	Substation Name	MW Output	MW Max
American Electric Power (AEP)	05UNDS-A	Dument*	110	135
American Electric Power (AEP)	05UNDS-A	Dument*	110	135
American Electric Power (AEP)	05UNDS-B	Jefferson*	110	135
American Electric Power (AEP)	05UNDS-B	Jeffereson*	110	135
American Electric Power (AEP)	05UNDS-C	Hanging Rock*	110	135
American Electric Power (AEP)	05UNDS-C	Hanging Rock*	110	135
American Electric Power (AEP)	05UNDS-D	Marysville*	110	135
American Electric Power (AEP)	05UNDS-D	Marysville*	110	135
American Electric Power (AEP)	05UNDS-E	Breed*	110	135
American Electric Power (AEP)	05UNDS-F	Olive*	110	135
American Electric Power (AEP)	05UNDS-G	Ohio Center*	110	135
American Electric Power (AEP)	05UNDS-H	South Canton*	110	135
First Energy Corporation (FE)	02BEAVER	Beaver 138 kV	425	525
East Kentucky Power Cooperative (EKPC)	20JKSMIT	J.K. Smith Substation 138 kV Substation	82	108
East Kentucky Power Cooperative (EKPC)	20JKSMIT	J.K. Smith Substation 138 kV Substation	436	436
East Kentucky Power Cooperative (EKPC)	20JKSMIT	J.K. Smith Substation 138 kV Substation	82	108
East Kentucky Power Cooperative (EKPC)	20JKSMIT	J.K. Smith Substation 138 kV Substation	82	108

* Closest Substation (Generator Substation is not designated)

Table A-2: AEP-KP Zone Load Centers and Locations with Respect to Beaver Creek Substation

Bus Name	Substation Name	MW Load	MVAR Load	Location
05BEC2EQ	BEAVER CREEK	26.54	8.54	Beaver Creek
05ALLEN	ALLEN	13.48	4.06	Beaver Creek
05LACKES	LACKEY	10.16	1 47	Beaver Creek
05SPRINK	SPRING CREEK	1.67	1.04	Beaver Creek
05BEC1EQ	BEAVER CREEK	0.37	3 58	Beaver Creek
05BELLET	BELLEFONTE	58 49	21.24	North
05DEWEY	DEWEY	28.96	6.34	North
05B SAN	BIG SANDY	16.29	4.16	North
05CHAVI	CHAVIES	3.36	1.03	North
05B SAND	BIG SANDY	2.68	1.38	North
05MIDDLR	MIDDLE CREEK	2.51	2.23	North
05THMAEQ	THELMA	1.64	-2.52	North
05PRINCS	PRINCESS	-1.21	7.26	North
05BEN2EQ	BELLEFONTE	236.63	-31.83	North
05CHADWK	CHADWICK	147.18	56.03	North
05KYELEC	KENTUKY ELECTRIC STEEL	30.24	-15.02	North
05CANNOB	CANNONSBURG	19.29	8.6	North
05BONNYN	BONNYMAN	19 19	6.17	North
05BUSSYV	BUSSEYVILLE	18.46	9.59	North
05BELLF1	BELLEFONTE	18.07	10 87	North
05THELMA	THELMA	16.84	13.57	North
05KENWDP	KENWOOD	16.25	0.82	North
05BETSYL	BETSY LANE	15.89	12 51	North
05BELHAV	BELHAVEN	13 7	5.92	North
05HITCHI	HITCHINS	12.85	4.79	North
05COMBS	COMBS	12.41	4 44	North
05BEYLEQ	BETSY LAYNE	11.71	5.68	North
05JACKS	JACKSON	10.79	- 3.86	North
05FALCON	FALCON	10.23	3 58	North
05HADDI	HADDIX	10.19	3.86	North
05COALT	COALTON	10 02	3 78	North
05HAYWAR	HAYWARD	9.46	3.53	North
05GRAYSO	GRAYSON	8.93	3 19	North
05OLIVEL	OLIVE	8.47	3.15	North
05PRESTB	PRESTONSBURG	8.37	5.22	North
05HUBTWN	HUBBARDSTOWN	8 11	3.36	North
05INDEX	INDEX	7 79	2.57	North
05EPRESS	EAST PRESTONSBURG	6.51	1.49	North
05SILOA	SILOA	5 99	2.65	North

05GRAYSB	GRAYS BRANCH	4.38	0.76	North
05GRAHN	GRAHN	2 68	1.01	North
05BEN5EQ	BELLEFONTE	-29.32	7.8	North
05FULLER	FULLERTON	13.81	8.81	North
05JOCREQ	JOHNS CREEK	63.65	31.22	North East
05INEZ	INEZ	33.96	6.94	North East
05LOVELY	LOVELY	29.84	5.1	North East
05STONE	STONE	22 89	16.67	North East
05HATFLD	HATFIELD	18.05	25.92	North East
05FLEMI	FLEMING	74 29	4.36	South East
05CERCEQ	CEDAR CREEK	40.25	19.68	South East
05DORTO	DORTON	22 02	7.94	South East
05BEEFHI	BEEF HIDE	2.98	1 86	South East
05VICCO	VICCO	10.22	4.01	South West
05LESLI	LESLIE	30 04	8.59	South West
05HAZAR2	HAZARD	26.22	4.01	South West
05HAZRD1	HAZARD	24.07	11.15	South West
05BECKHA	BECKHAM	22.93	5 93	South West
05SHAMRK	SHAMROCK	19.69	9.17	South West
05STINNE	STINNETT	18.02	2.6	South West
05TOPMOS	TOPMOST	4.21	3.77	South West
05HAZAR-	HAZARD	4.19	1.29	South West
05SPICEW	SPICEWOOD	0.72	0.38	West
05HARBER	HARBERT METERING	11.75	1.17	West
05CONSOL	CONSOLIDATED COAL	4.65	0.6	West

Table A-3: AEP Beaver Creek substation 138 kV Transmission Lines

Transmission Line	Normal Limit (MVA)		Long Term Emergency Limit (MVA)	
	Summer	Winter	Summer	Winter
Beaver Creek – Consolidated Tap	143	143	151	151
Beaver Creek – Betsy Lane	220	280	269	316
Beaver Creek – Cedar Creek	305	386	410	466
Beaver Creek – Topmost	153	203	194	228
Beaver Creek – Dorton	185	191	200	249
Beaver Creek – Fremont	143	143	165	186

Table A-4: Bus – Substation Name Translation

Bus Name	Substation Name
05ABINGD	ABINGDON
05AMOS 765	AMOS
05AXTON 765	AXTON
05BAKER 765	BAKER
05BAKER 345	BAKER
05BEAVRC 138	BEAVER CREEK
05BECKHA 138	BECKHAM
05BROADF 500	BROADFORD
05BROADF 765	BROADFORD
05CEDARC 138	CEDAR CREEK
05CLNCHR 138	CLINCH RIVER
05CLOVRD 765	CLOVERDALE
05CONSOL 138	CONSOLIDATED COAL
05CONSTP 138	CONSOLIDATED COAL TAP
05COPPER	COPPER RIDGE
05CULLOD 765	CULLODEN
05DEWEY 138	DEWEY
05DORTON 138	DORTON
05DORTON 138	DORTON
05FLEMIN 138	FLEMING
05FLMGTN 138	FLEMINGTOWN
05FREMO1 138	FREMONT
05FREMO2 138	FREMONT
05HANG R 765	HANGING ROCK
05HARBER 138	HARBERT METERING
05HAZARD 161	HAZARD
05HAZRD1 138	HAZARD
05HAZRD2 138	HAZARD
05J FERR 765	JACKSONS FERRY
05JEFRSO 765	JEFFERSON
05JOHNSC 138	JOHNS CREEK
05JOSHU 765	JOSHUA FALLS
05LEBANO	LEBANON
05LESLIE 161	LESLIE
05MARQUI 765	MARQUIS
05MEADWV	MEADOWVIEW
05NPROCT 765	NORTH PROCTORVILLE
05SEXTON	SEXTON
05SPICEW 138	SPICEWOOD
05STINNE 161	STINNETT

05THELMA 138	THELMA
05TOPMOS 138	TOPMOST
05TRISTA 345	TRISTATE
05VICCO 138	VICCO
05WYOMIN 765	WYOMING
05YELLMT 138	YELLOW MOUNTAIN
11ALCALD 345	ALCALDE 345 kV BUS
11BRWN N 345	BROWN NORTH 345 kV BUS
11GHENT 345	Ghent 345 kV bus
11PINEV 161	PINEVILLE SWITCHING STATION 161 kV BUS
11PINEVI 345	PINEVILLE 345 kV BUS
8 SULLIVIA 500	SULLIVAN

Table A-5: Base Case Line and Transformer Limit Violations

From Number	To Name	Crt.	Limit	Percent	Units	From Area Name	To Area Name	Base kV
MOTTS #1	MOTTS TP	1	362.3	100.6	Amps	AE	AE	69
MIDDLE#1	MID#3 CT	1	41	210	MVA	AE	AE	69
CEDAR 2	CEDR#2CT	1	24	100.8	MVA	AE	AE	23
05REEDUR	05TORREY	1	799.1	107 3	Amps	AEP	AEP	138
05DESOTO	05JAY	1	774	100.9	Amps	AEP	AEP	138
08M.FTGT	08MFGT17	1	90	101.4	MVA	CIN	CIN	138
07RAMSEY	08N ALB	1	368.2	108.9	Amps	HE	CIN	69
08ROCKVL	08SDCUTJ	1	120	109.5	MVA	CIN	CIN	138
08CNITJ1	08SDCUTJ	1	130	101 6	MVA	CIN	CIN	138
08BUFTN1	08BUFFM1	1	100	113.1	MVA	CIN	CIN	138
08CAY2	08CAYUGA	1	550	103	MVA	CIN	CIN	345
08WARREN	08WARREN	1	100	107.8	MVA	CIN	CIN	138
18MORROW	18MORW 1	1	55	134.7	MVA	CONS	CONS	138
18SE SYD	18SE 3G	1	215	102.8	MVA	CONS	CONS	345
19HINES	19HINES	1	406	105.1	MVA	DECO	DECO	230
CECIL 3	CECIL	1	99	108.5	MVA	DP&L	DP&L	230
02BLUBEL	02BLUBEL	PL	80	105.3	MVA	FE	FE	138
02NY Q12	02NURSER	2	50	107.9	MVA	FE	FE	138
02BAYSHO	02 IRONV	1	912	100 5	Amps	FE	FE	138
02 IRONV	02 IRONV	1	204	102.4	MVA	FE	FE	138
02SHNROK	02SHINRO	1	67	112.4	MVA	FE	FE	138
02MASURY	02MASURY	1	67	102	MVA	FE	FE	138
07RAMSEY	07CORYDN	1	292.9	106.3	Amps	HE	HE	69
07ECKY_T	07BUECLR	1	192.5	113.6	Amps	HE	HE	69
07WHIT_J	07IRELND	1	192.5	113.4	Amps	HE	HE	69
07G-TOWN	07G-TOWN	1	72	117	MVA	HE	HE	138
07MRM_TP	07MRM_D	1	192.5	130.9	Amps	HE	HE	69
07MRM_TP	07CARLIL	1	192.5	131	Amps	HE	HE	69
05MOREHE	11RODBRN	1	276.1	114.3	Amps	AEP	LGEE	69
11RODBRN	11RODBRN	1	33	116 3	MVA	LGEE	LGEE	138
05WAVERL	06SARGNT	1	949.7	101 7	Amps	AEP	OVEC	138
10NEWTVL	10NEWTVL	1	67	116.6	MVA	SIGE	SIGE	138
10NEWTVL	10NEWTVL	2	60	130.2	MVA	SIGE	SIGE	138

Table A-6: AEP MW Interchanges with Neighboring Control Areas

Control Area	Base Case Without the Project's generation	500 MW Project's Generation Tapped to the 138 kV System		1000 MW Project's Generation Tapped to the 765 kV System	
	MW* Interchange	MW* Interchange	MW** Change	MW* Interchange	MW** Change
Carolina Power & Light Co.-East (CPLE)	-257.7	-242.0	15.7	-219.3	38.4
Carolina Power & Light Co.-West(CPLW)	125.0	142.1	17.1	142.9	17.9
Duke Power (Duke)	-317.9	-254 5	63.4	-156.0	161 9
Virginia Power (VP)	-328.9	-316.7	12.2	-295.1	33.8
Tennessee Valley Authority (TVA)	-1153.8	-948.6	205.2	-847 0	306.8
Allegheny Power (AP)	398.6	425.0	26.4	448.3	49 7
First Energy Corporation (FE)	1282.9	1293.7	10.8	1304 9	22
Ohio Valley Electric Corporation (OVEC)	203.1	220.9	17.8	267.8	64 7
Cinergy Corporation (CIN)	451.1	449.9	-1.2	473.9	22.8
Dayton Power & light (DPL)	-980.0	-967 4	12.6	-939.7	40.3
Louisville Gas & electric (LGEE)	-178 6	-177.6	1	-168.8	9.8
Duquesne Light Company (DLCO)	275.1	276.9	1.8	278.1	3
Indianapolis Power & Light (IPL)	-297.2	-288.6	8.6	-274.8	22.4
Northern Indiana Public Service (NIPS)	395.1	408.1	13	422.6	27.5
Consumers Energy (CONS)	711.2	700.9	-10.3	687.5	-23 7
East Kentucky Power Cooperative (EKPC)	-1.0	19 0	20	3.5	4.5
Indiana Municipal Power Agency (IMPA)	122.1	122.2	0.1	122.4	0 3
Ameren (AMRN)	79.0	116.3	37.3	157.2	78.2
Illinois Power (IP)	55.9	68.8	12.9	81.7	25.8
Commonwealth Edison (NI)	-53.1	-14.4	38.7	29.8	82.9
Net MW Interchange	530.1	1034.2	503.1	1519.9	989

*Positive Interchange: Power Flow Out of AEP area (export)
*Negative Interchange: Power Flow into AEP Area (import)

** Positive MW Change: Increase in export when base case interchange is export or decrease in import when base case interchange is import

** Negative MW Change: Decrease in export when base case interchange is export or increase in import when base case interchange is import.

Table A-7: 500 MW Project's Generation Tapped to the 138 kV System: Line and Transformer Limit Violations

From Name	To Name	Crt	Limit	Percent	Units	From Area Name	To Area Name	Base kV
MOTTS #1	MOTTS TP	1	362.3	100 6	Amps	AE	AE	69
CEDAR 2	CEDR#2CT	1	24	100 8	MVA	AE	AE	23
MIDDLE#1	MID#3 CT	1	41	210	MVA	AE	AE	69
05DESOTO	05JAY	1	774	100.5	Amps	AEP	AEP	138
05REEDUR	05TORREY	1	799.1	107 4	Amps	AEP	AEP	138
08ROCKVL	08SDCUTJ	1	120	109.4	MVA	CIN	CIN	138
07RAMSEY	08N ALB	1	368.2	108 3	Amps	HE	CIN	69
08CNITJ1	08SDCUTJ	1	130	101.4	MVA	CIN	CIN	138
08BUFTN1	08BUFFM1	1	100	113 1	MVA	CIN	CIN	138
08WARREN	08WARREN	1	100	107.9	MVA	CIN	CIN	138
08M.FTGT	08MFGT17	1	90	101 4	MVA	CIN	CIN	138
08CAY2	08CAYUGA	1	550	103	MVA	CIN	CIN	345
18SE SYD	18SE 3G	1	215	102.7	MVA	CONS	CONS	345
18MORROW	18MORW 1	1	55	134 7	MVA	CONS	CONS	138
19HINES	19HINES	1	406	105.1	MVA	DECO	DECO	230
CECIL 3	CECIL	1	99	108 5	MVA	DP&L	DP&L	230
02SHNROK	02SHINRO	1	67	112.4	MVA	FE	FE	138
02BLUBEL	02BLUBEL	PL	80	105.3	MVA	FE	FE	138
02NY Q12	02NURSER	2	50	107.9	MVA	FE	FE	138
02BAYSHO	02 IRONV	1	912	100.5	Amps	FE	FE	138
02MASURY	02MASURY	1	67	102	MVA	FE	FE	138
02 IRONV	02 IRONV	1	204	102.4	MVA	FE	FE	138
07WHIT_J	07IRELND	1	192.5	115 6	Amps	HE	HE	69
07G-TOWN	07G-TOWN	1	72	116.8	MVA	HE	HE	138
07RAMSEY	07CORYDN	1	292.9	106.3	Amps	HE	HE	69
07ECKY_T	07BUECLR	1	192 5	113.6	Amps	HE	HE	69
07MRM_TP	07MRM_D	1	192.5	130.9	Amps	HE	HE	69
07MRM_TP	07CARLIL	1	192.5	131	Amps	HE	HE	69
05MOREHE	11RODBRN	1	276 1	111.4	Amps	AEP	LGEE	69
11RODBRN	11RODBRN	1	33	117	MVA	LGEE	LGEE	138
05WAVERL	06SARGNT	1	949.7	102	Amps	AEP	OVEC	138
10NEWTVL	10NEWTVL	1	67	116.1	MVA	SIGE	SIGE	138
10NEWTVL	10NEWTVL	2	60	129.6	MVA	SIGE	SIGE	138

Table A-8: 1000 MW Project's Generation Tapped to the 765 kV System: Line and Transformer Limit Violations

From Name	To Name	Crt	Limit	Percent	Units	From Area Name	To Area Name	Base kV
CEDAR 2	CEDR#2CT	1	24	100.8	MVA	AE	AE	23
MOTTS #1	MOTTS TP	1	362.3	100.6	Amps	AE	AE	69
MIDDLE#1	MID#3 CT	1	41	210	MVA	AE	AE	69
05REEDUR	05TORREY	1	799.1	107.4	Amps	AEP	AEP	138
05DESOTO	05JAY	1	774	100 1	Amps	AEP	AEP	138
4BEARSKN	05BEARSK	1	251	100.7	Amps	VP	AEP	138
05TRISTA	05CHADWC	1	920.4	100.4	Amps	AEP	AEP	138
08CLRMT1	08CLRMT2	1	711.2	100	Amps	CIN	CIN	138
08M.FTGT	08MFGT17	1	90	101.4	MVA	CIN	CIN	138
08WARREN	08WARREN	1	100	108	MVA	CIN	CIN	138
08BUFTN1	08BUFFM1	1	100	113.1	MVA	CIN	CIN	138
08CAY2	08CAYUGA	1	550	103	MVA	CIN	CIN	345
08CNITJ1	08SDCUTJ	1	130	101	MVA	CIN	CIN	138
07RAMSEY	08N ALB	1	368.2	107.4	Amps	HE	CIN	69
08ROCKVL	08SDCUTJ	1	120	109	MVA	CIN	CIN	138
18SE SYD	18SE 3G	1	215	102.6	MVA	CONS	CONS	345
18MORROW	18MORW 1	1	55	134.7	MVA	CONS	CONS	138
19HINES	19HINES	1	406	105.1	MVA	DECO	DECO	230
CECIL 3	CECIL	1	99	108.5	MVA	DP&L	DP&L	230
02BLUBEL	02BLUBEL	PL	80	105.3	MVA	FE	FE	138
02BAYSHO	02 IRONV	1	912	100.6	Amps	FE	FE	138
02NY Q12	02NURSER	2	50	107.9	MVA	FE	FE	138
02 IRONV	02 IRONV	1	204	102.4	MVA	FE	FE	138
02MASURY	02MASURY	1	67	102	MVA	FE	FE	138
02SHNROK	02SHINRO	1	67	112.3	MVA	FE	FE	138
07WHIT_J	07IRELND	1	192.5	118.9	Amps	HE	HE	69
07RAMSEY	07CORYDN	1	292.9	106.2	Amps	HE	HE	69
07G-TOWN	07G-TOWN	1	72	116.8	MVA	HE	HE	138
07ECKY_T	07BUECLR	1	192.5	113 7	Amps	HE	HE	69
07MRM_TP	07MRM_D	1	192.5	130.9	Amps	HE	HE	69
07MRM_TP	07CARLIL	1	192.5	131	Amps	HE	HE	69
05MOREHE	11RODBRN	1	276.1	105.8	Amps	AEP	LGEE	69
11RODBRN	11RODBRN	1	33	112.8	MVA	LGEE	LGEE	138
05WAVERL	06SARGNT	1	949.7	102	Amps	AEP	OVEC	138
10NEWTVL	10NEWTVL	1	67	115.3	MVA	SIGE	SIGE	138
10NEWTVL	10NEWTVL	2	60	128 7	MVA	SIGE	SIGE	138

Table A-9: Cost Estimate

AEP COSTS

ITEM	COST ($)
New 138-kV Switchyard at Plant, 3 breaker ring bus	1,500,000
New 138-kV Switchyard at Plant, 5 breaker ring bus	2,000,000
New 345-kV Switchyard at Plant, 3 breaker ring bus	2,400,000
New 345-kV Switchyard at Plant, 6 breaker ring bus	4,000,000
New 345-kV Substation, 4 breaker ring bus	2,700,000
New 765-kV Substation, 3 breaker ring bus	5,000,000
New 765-kV Substation, 4 breaker ring bus	6,000,000
138-kV breaker	150,000
345-kV breaker	300,000
Step-up transformer - to 765-kV Single phase winding	2,100,000
Upgrade 25 miles 138-kV transmission line	3,000,000
Build 25 miles new double circuit 138-kV transmission line	6,250,000
Build 35 miles new single circuit 345-kV transmission line	14,525,000
Build 35 miles new double circuit 345-kV transmission line	17,500,000

.425(25) = $10.6 M

$250K/MILE

415K/MILE

1.5(35) = $52.5 M

500K/MILE

EAGLE

BUILD 25 MILES 138 KV TRANSMISSION LINE .155(25) = $4.6 M

R/W PURCHASE @ $5,000 /AC $\frac{100' R/W \times 5280'}{43,560} = .2\ AC = \$12,000$ /MI

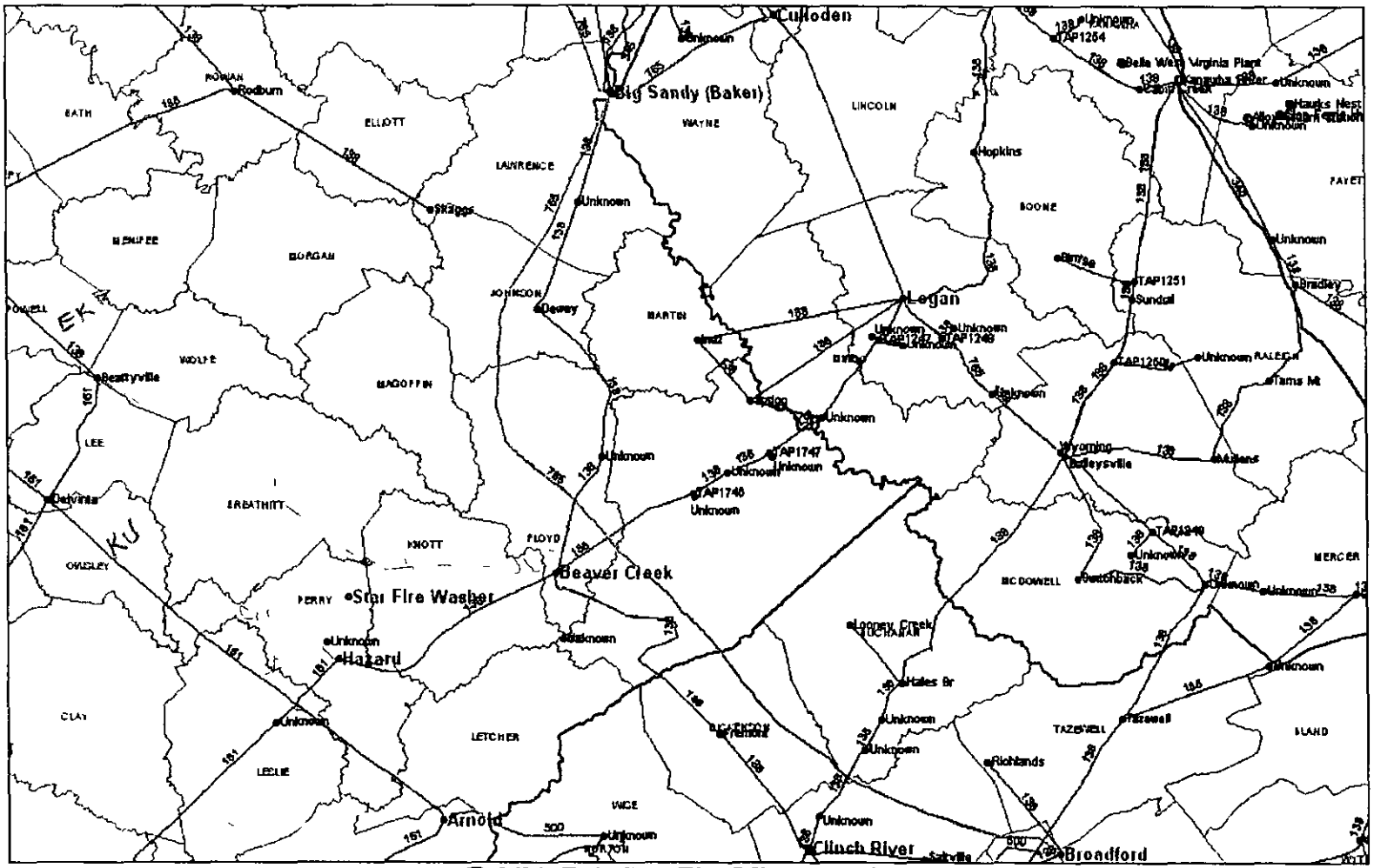


Exhibit B-1: Star Fire Mine Location

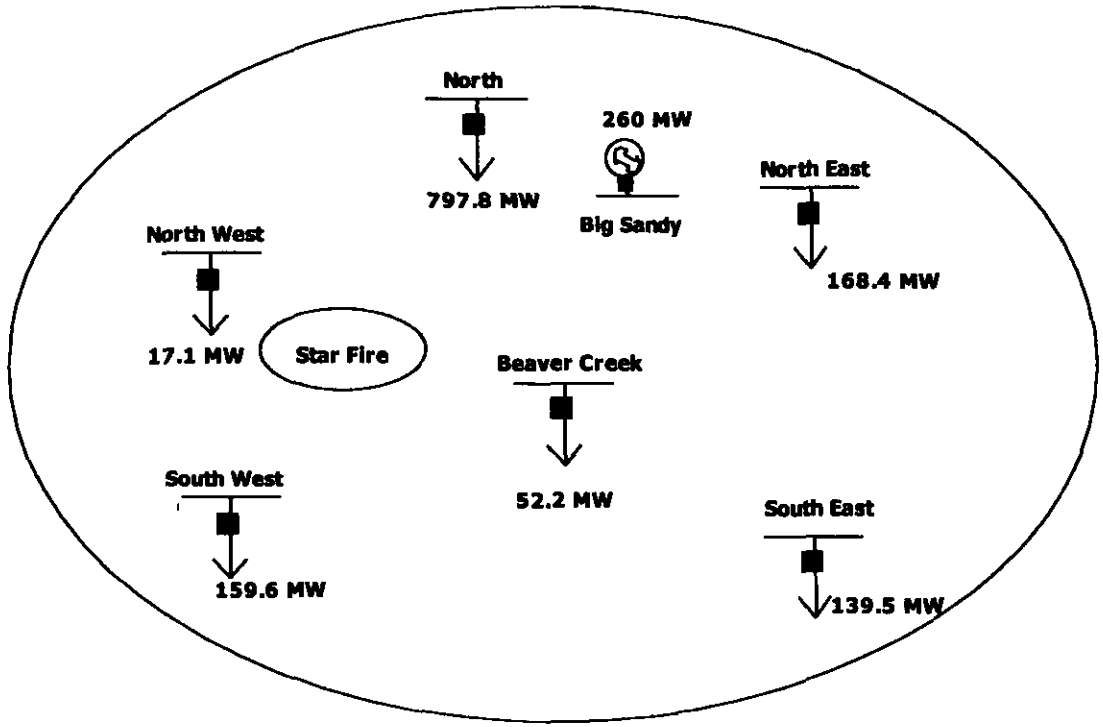


Exhibit B-2: AEP-KP Zone Load and Generation Locations

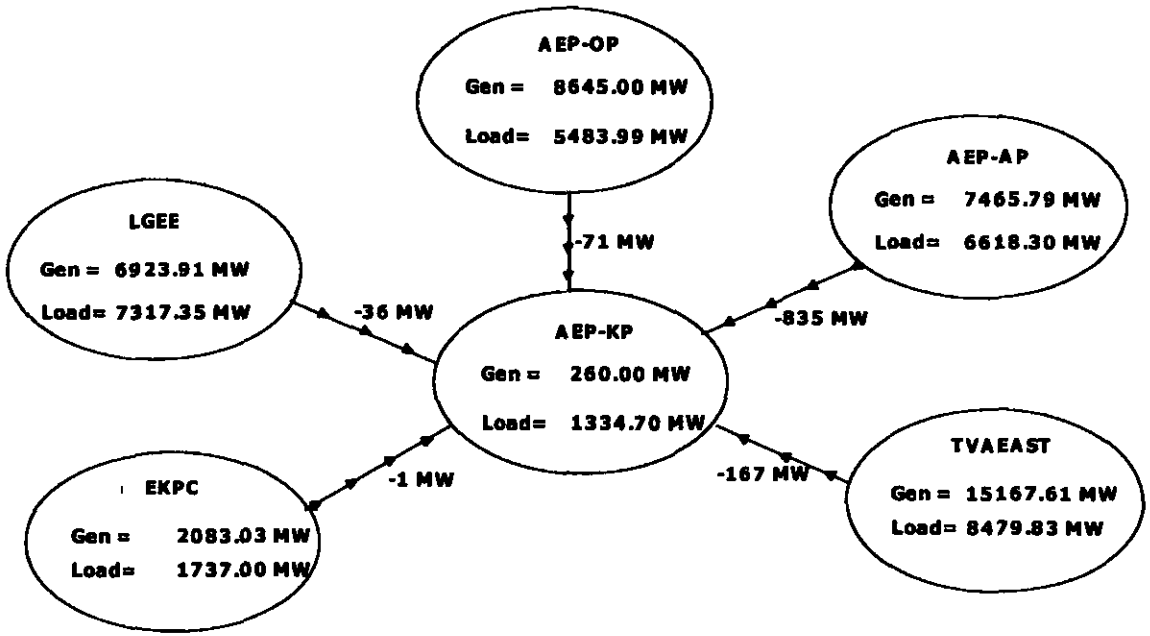


Exhibit B-3: AEP-KP Zone MW Interchanges without the Project's Generation

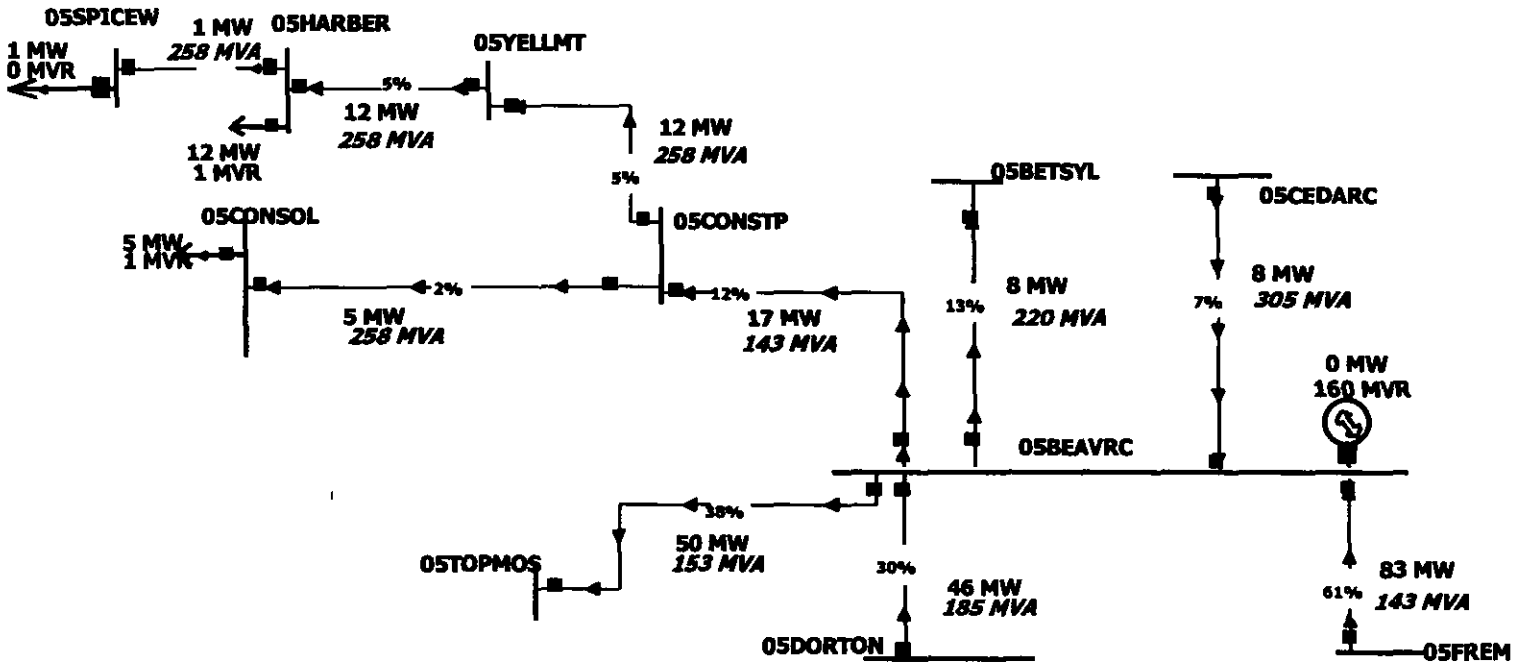


Exhibit B-4: Beaver Creak 138 kV Line Power Flows in the Base Case without The Project's Generation

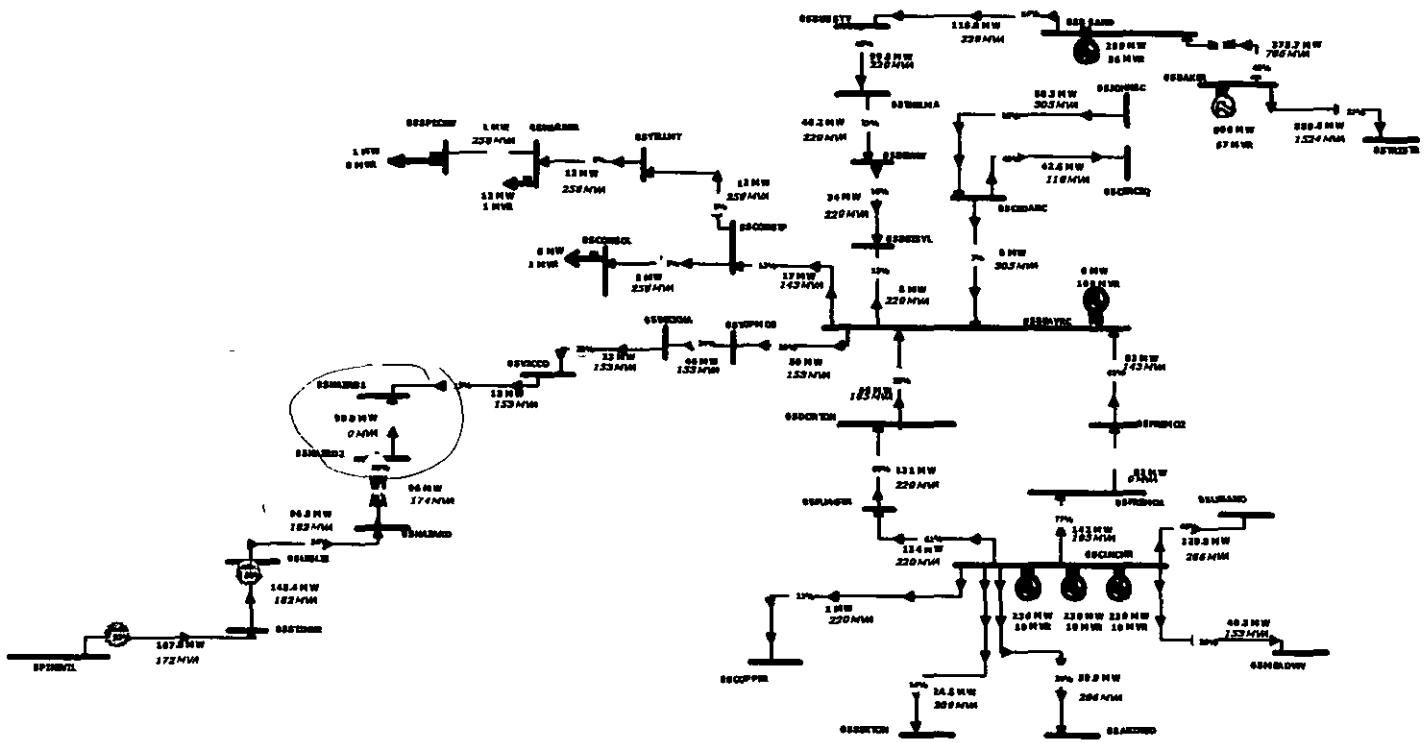


Exhibit B-5: 138 kV system Power Flows in the Base Case without the Project's Generation

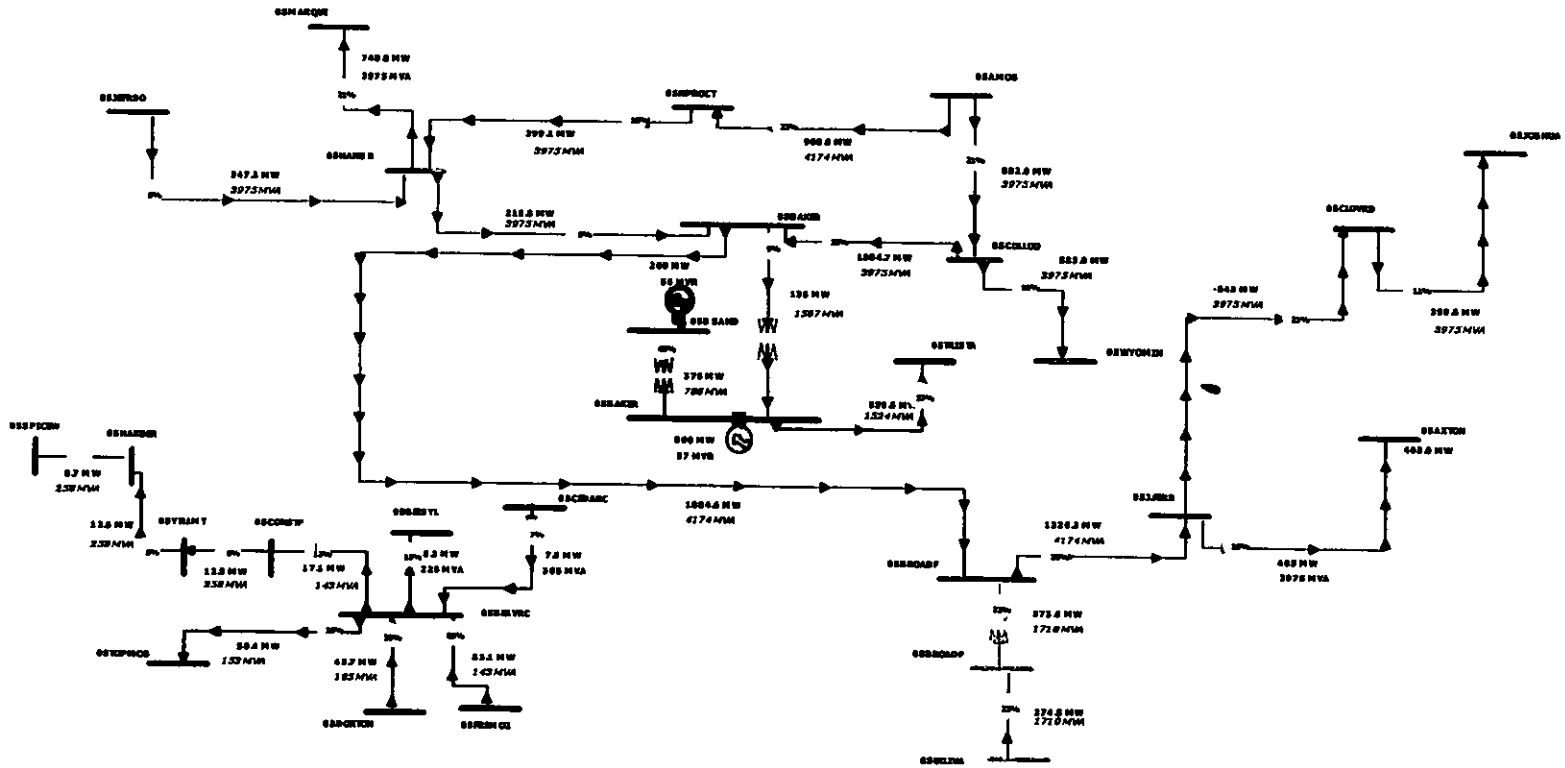


Exhibit B-6: 765 kV System Power Flows in the Base Case without the Project's Generation

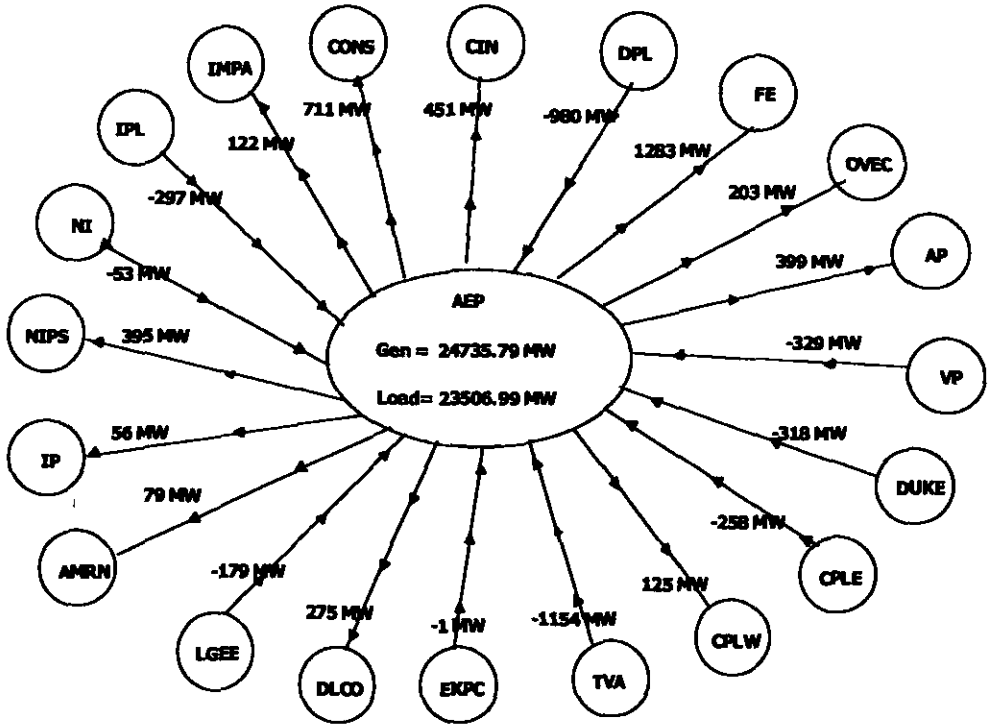


Exhibit B-7: AEP MW Interchanges with Neighboring Utilities in the Base Case without Project's Generation

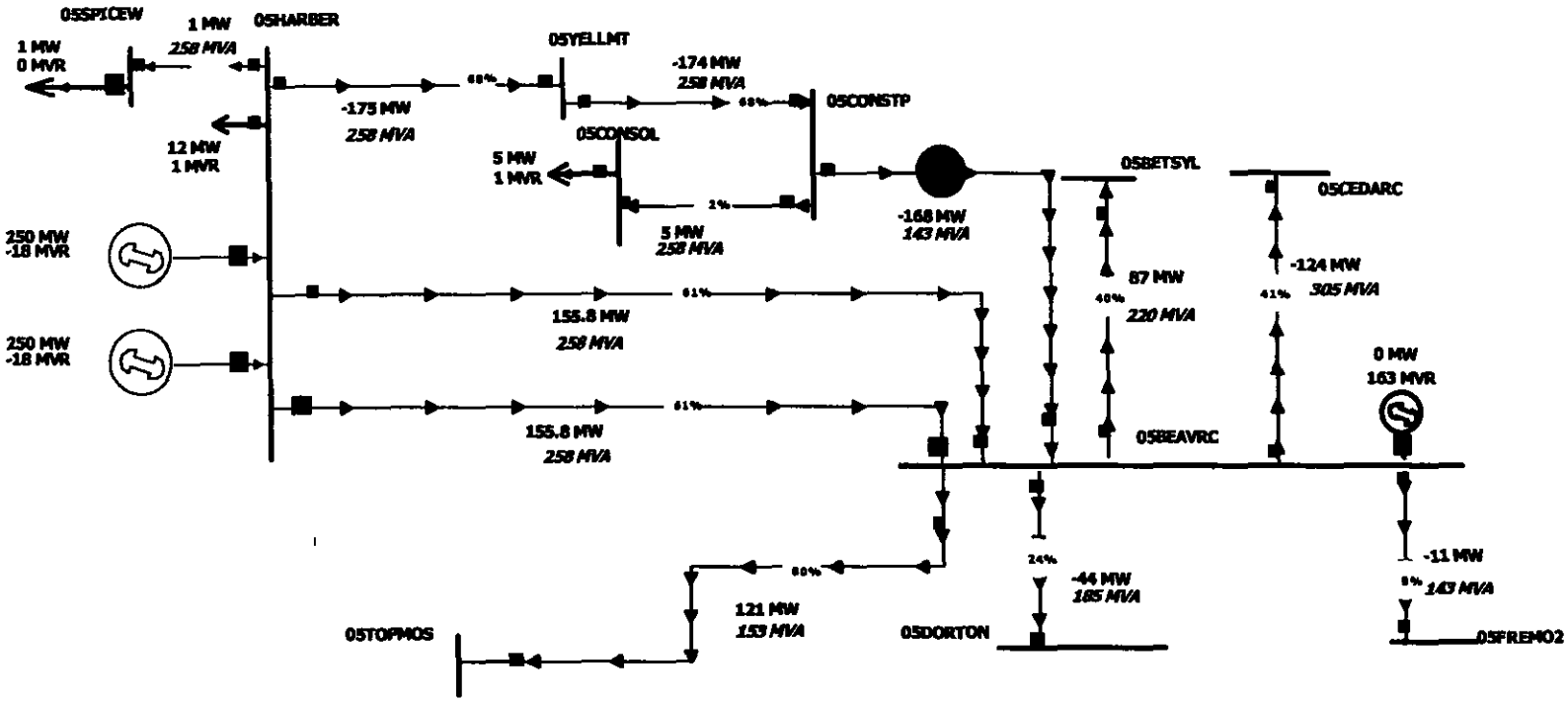


Exhibit B-8: 500 MW Project's Generation Tapped to Beaver Creek 138 kV substation

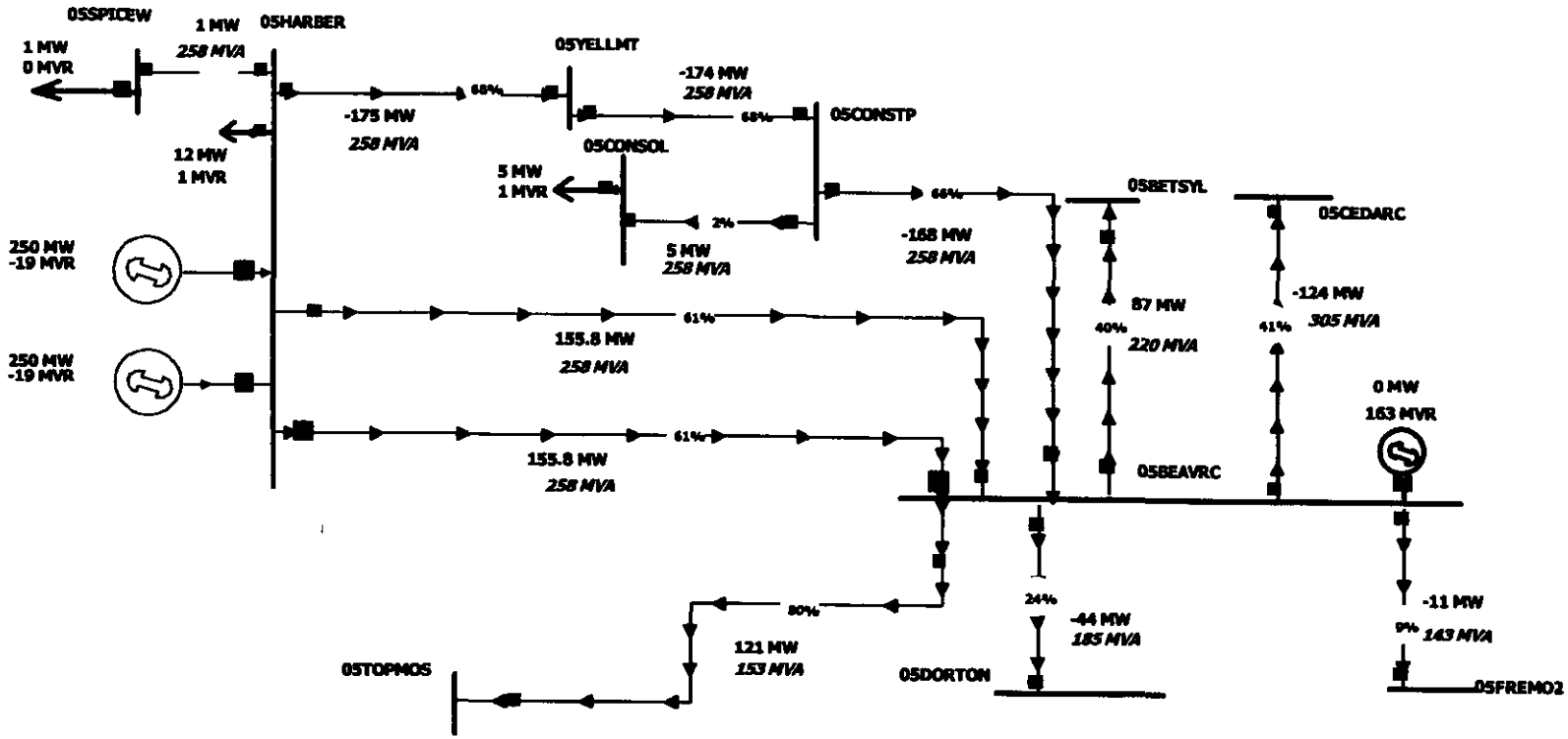


Exhibit B-9: 500 MW Project's Generation Tapped to Beaver Creek 138 kV substation With Beaver Creek – Consolidate Coal Tap Line Upgrade

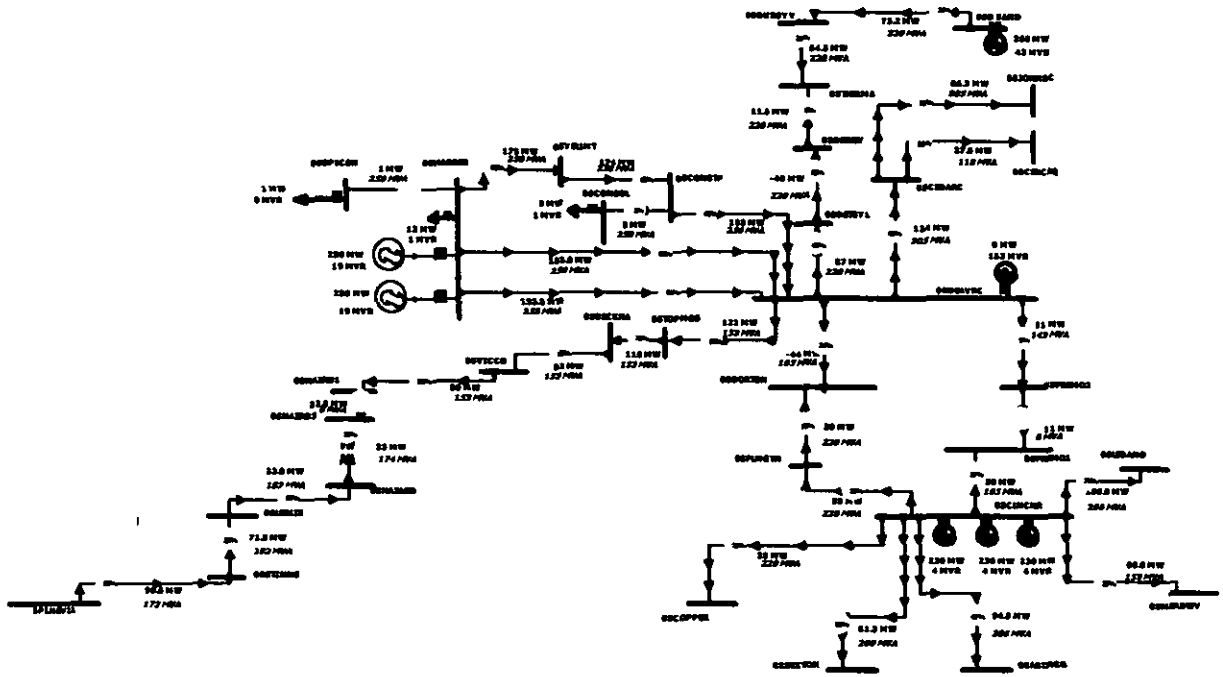


Exhibit B-10: Power Flows in the 138 kV System with 500 MW Project's Generation

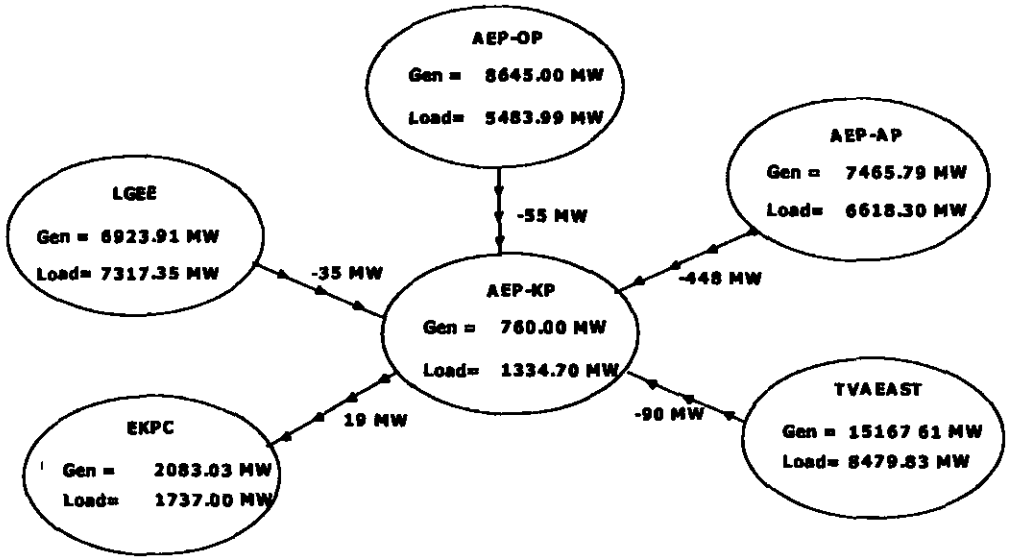


Exhibit B-11: AEP-KP Zone MW Interchanges with 500 MW Project's Generation at the 138 kV System

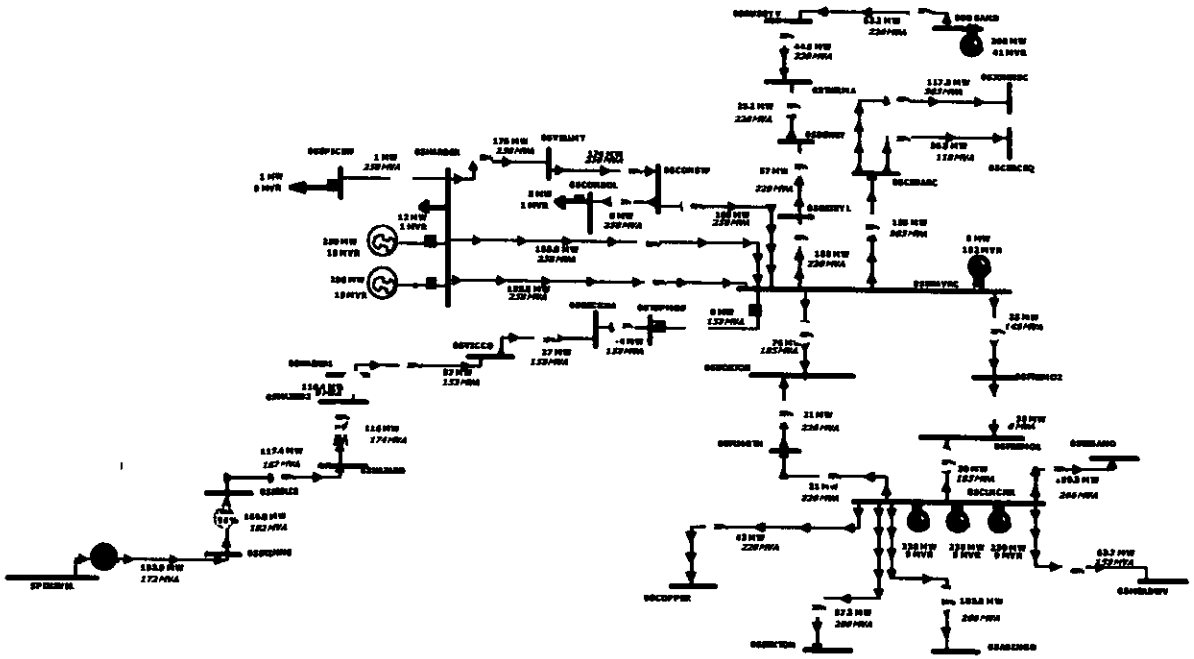


Exhibit B-12: Beaver Creek –Topmost 138 kV Line Contingency with 500 MW Project's Generation

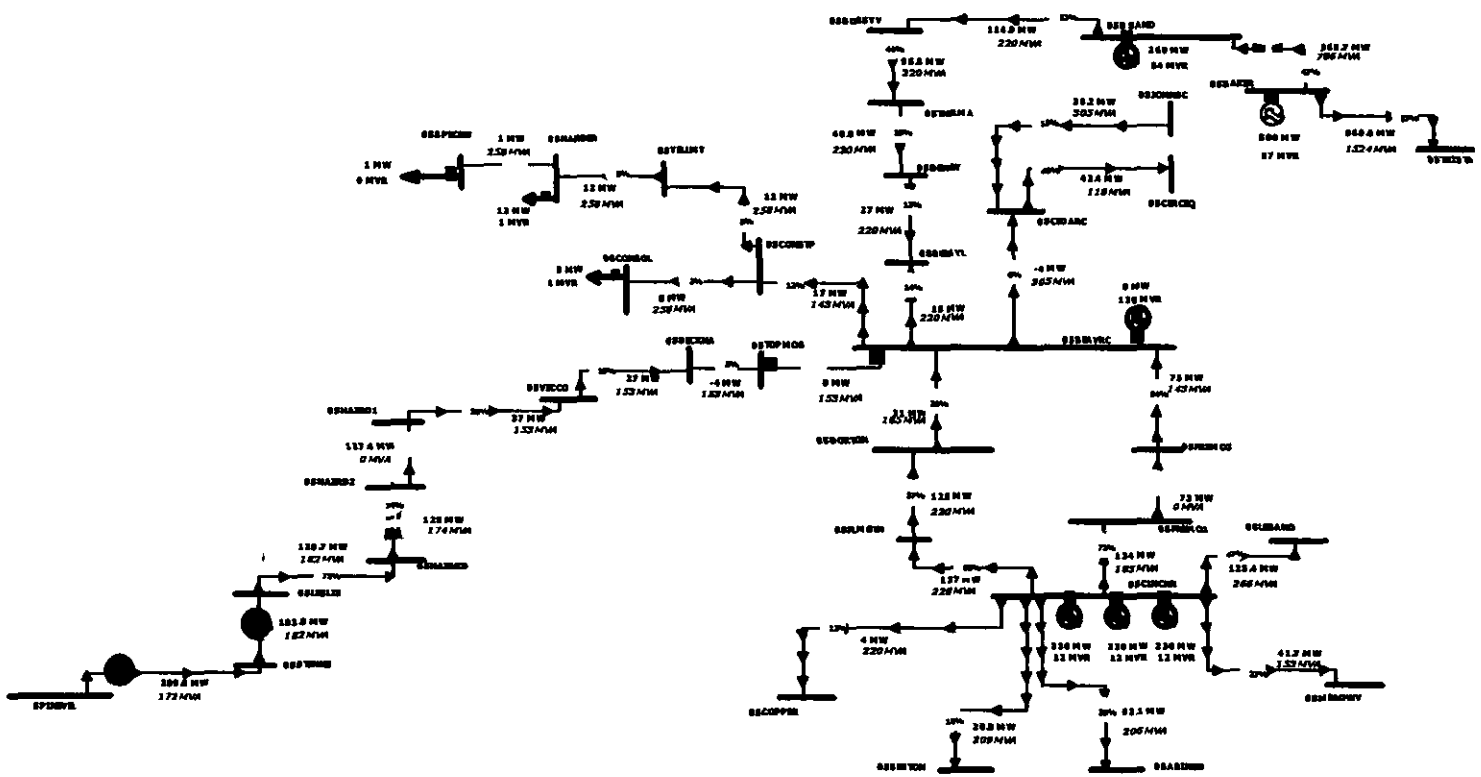


Exhibit B-13: Beaver Creek – Topmost 138 kV Line Contingency without the Project's Generation

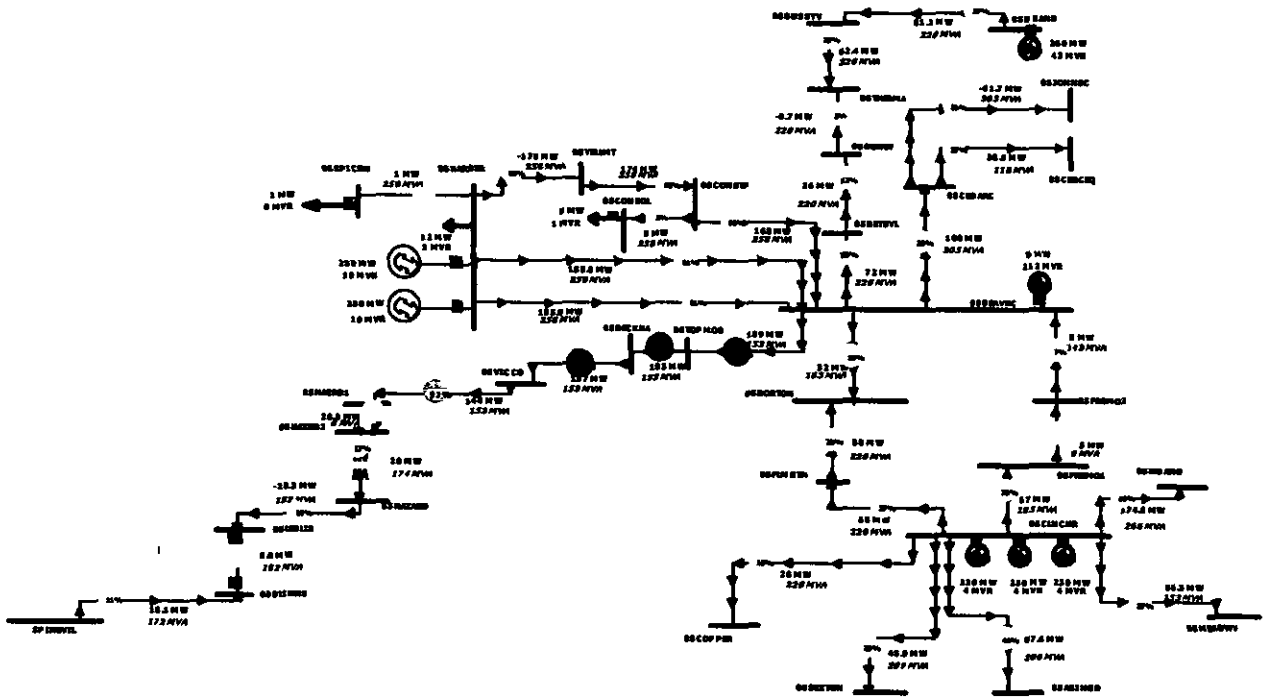


Exhibit B-14: Stinnett-Leslie 161 kV Line Contingency with 500 MW Project's Generation

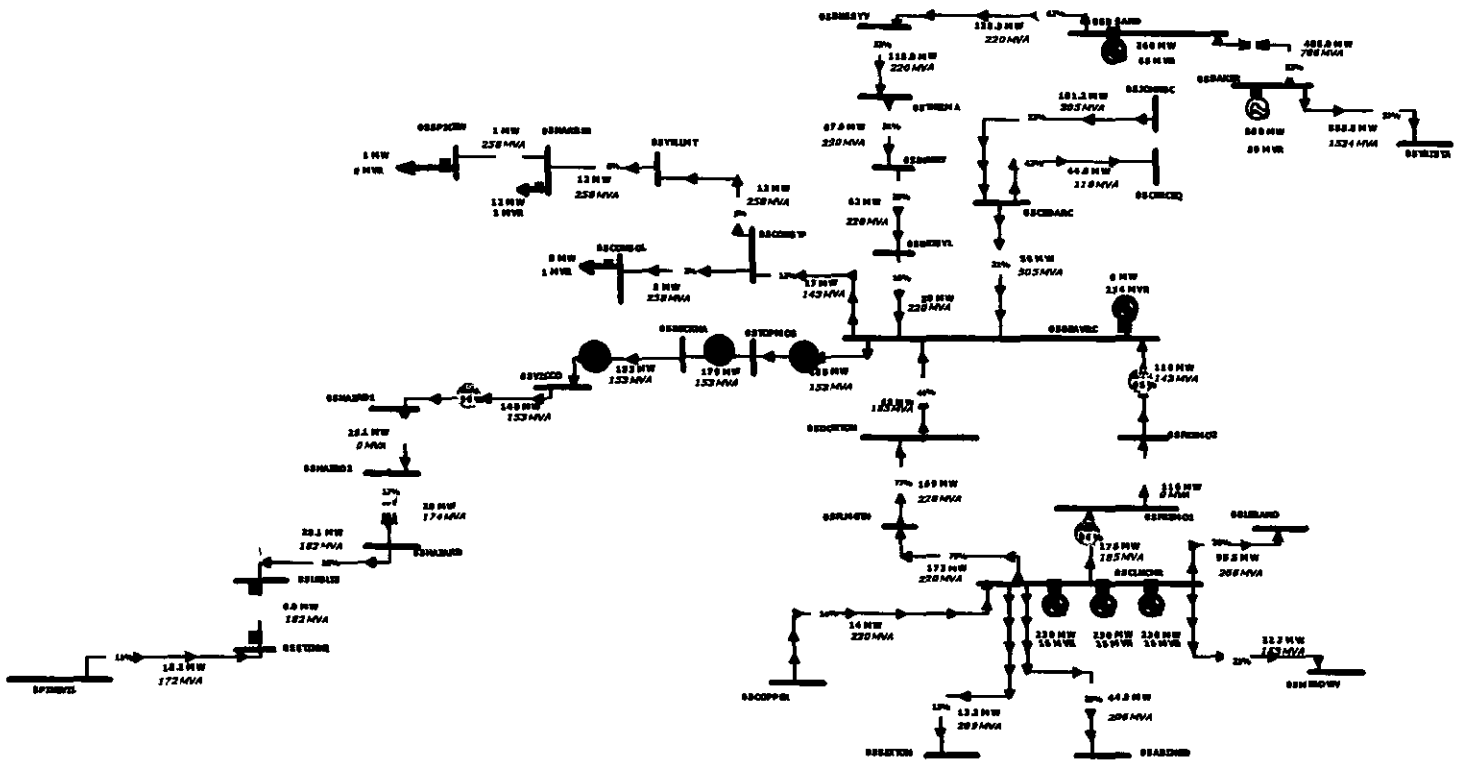


Exhibit B-15: Stinnett-Leslie 161 kV Line Contingency without the Project's Generation

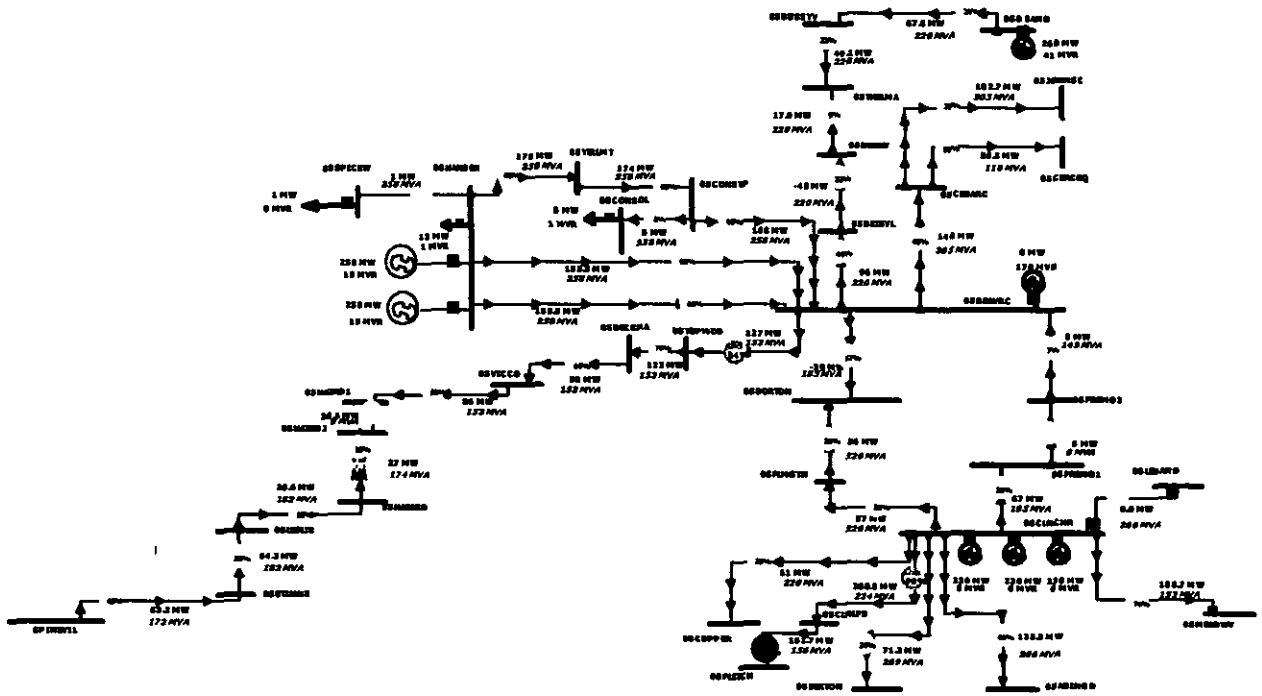


Exhibit B-16: Clinch River – Lebanon 138 kV line Contingency with 500 MW Project's Generation

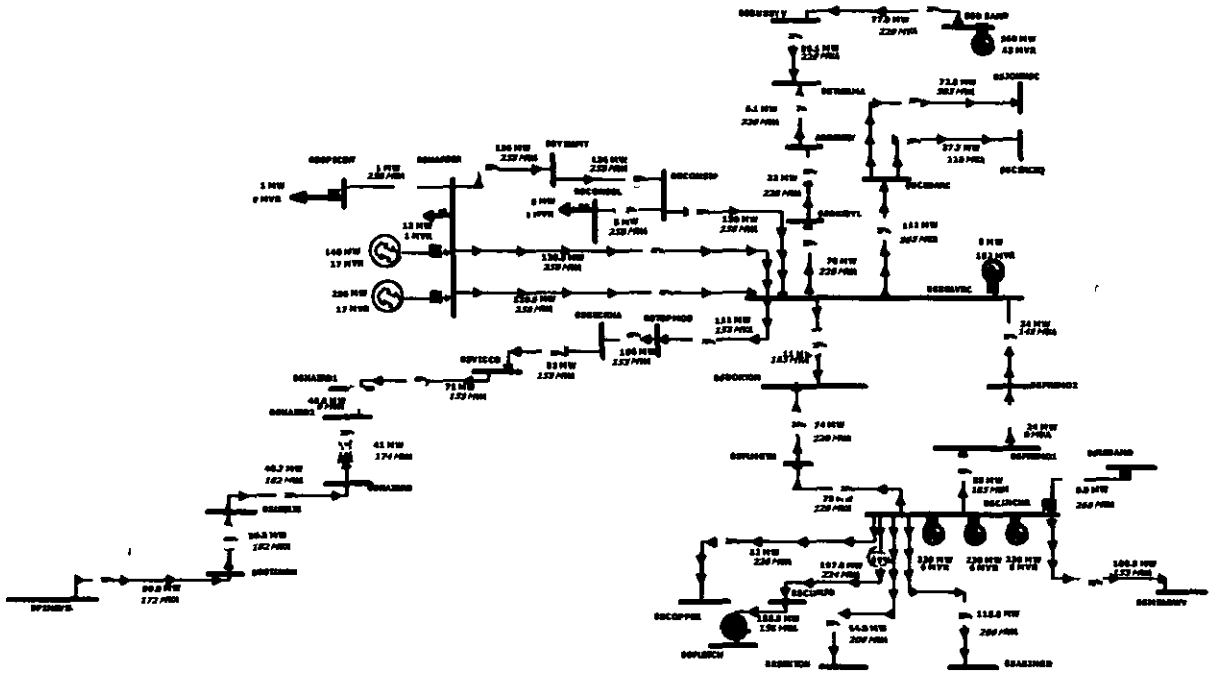


Exhibit B-17: Clinch River – Lebanon 138 kV line Contingency Mitigation

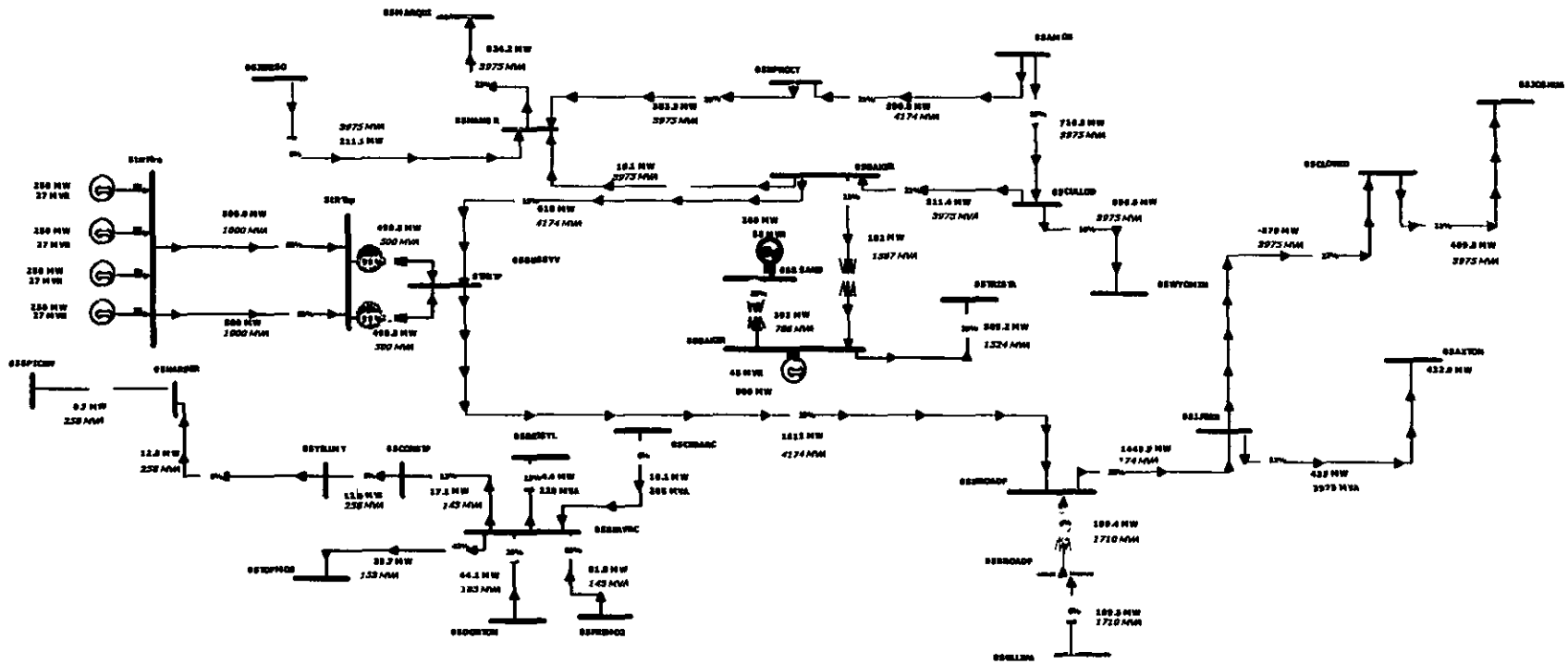


Exhibit B-18: 1000 MW Project's Generation Tapped at Baker-Broadford 765 kV Line

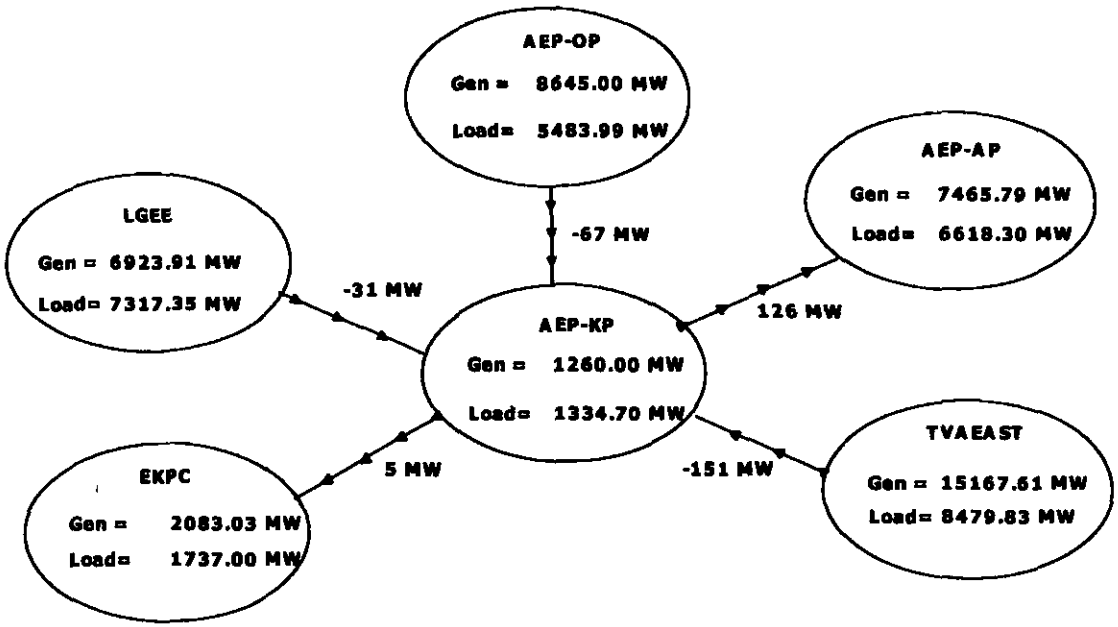


Exhibit B-19: AEP-KP Zone MW Interchanges With 1000 MW Project's Generation at the 765 kV System

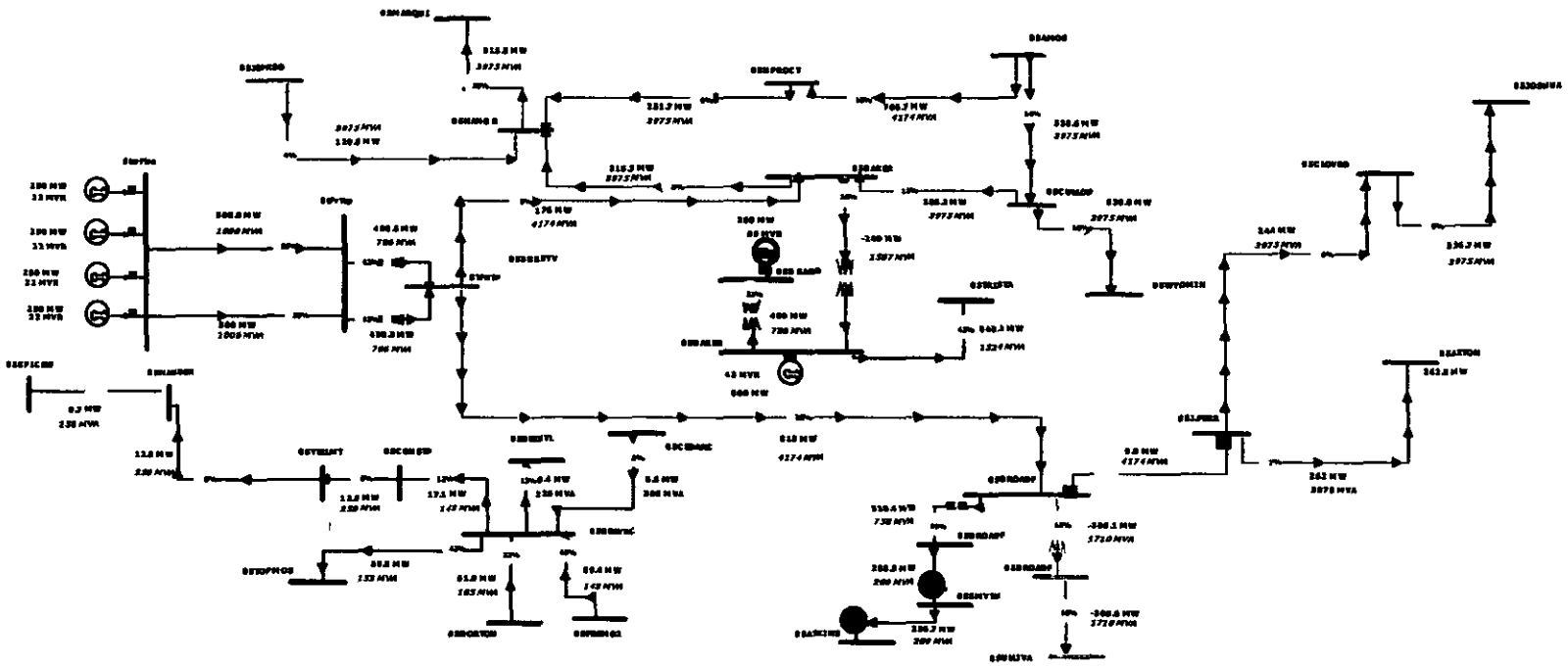


Exhibit B-20: Broadford-Jackson Ferry 765 kV Contingency with 1000 MW Project's Generation

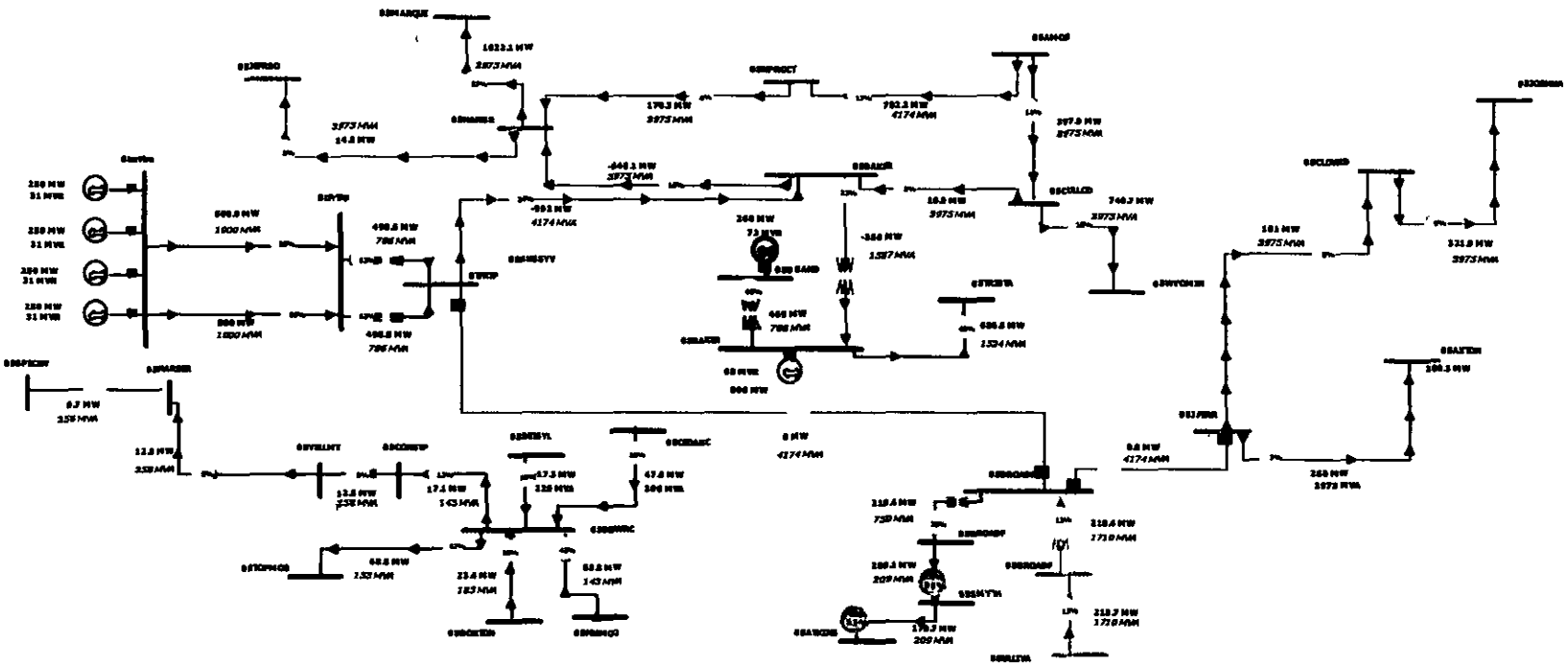


Exhibit B-21: Broadford-Jackson Ferry 765 kV Contingency Mitigation

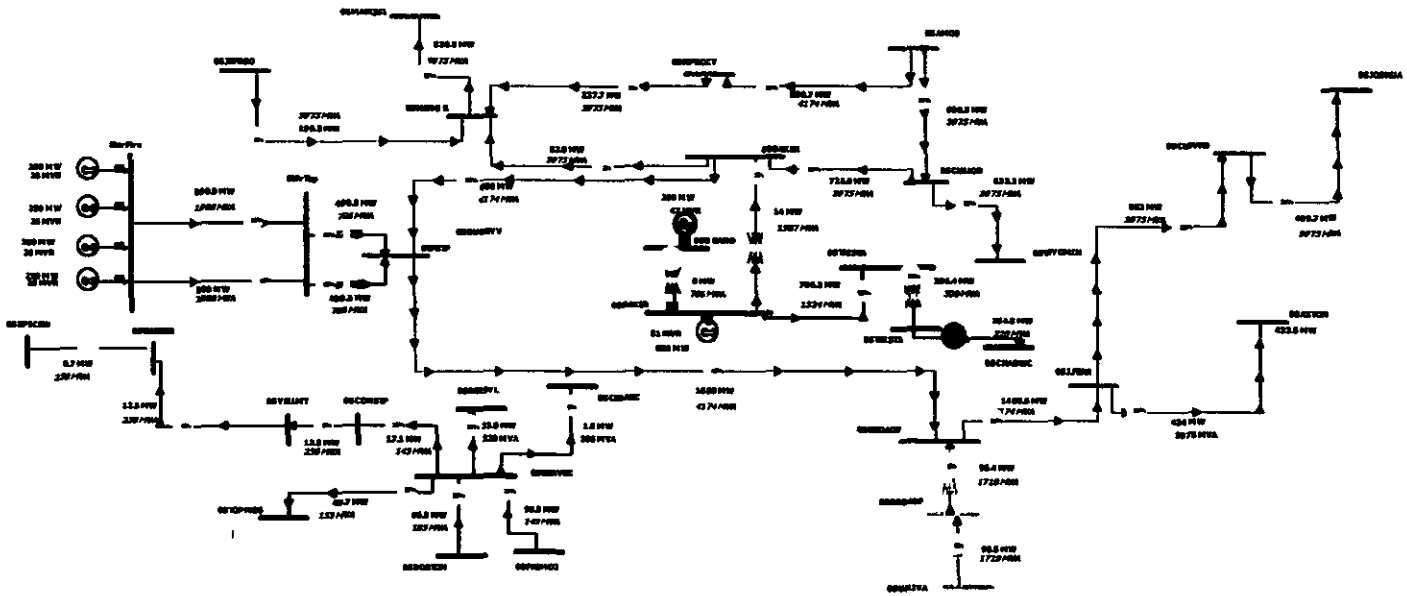


Exhibit B-22: Big Sandy-Baker 138/345 kV Transformer Contingency with 1000 MW Project's Generation

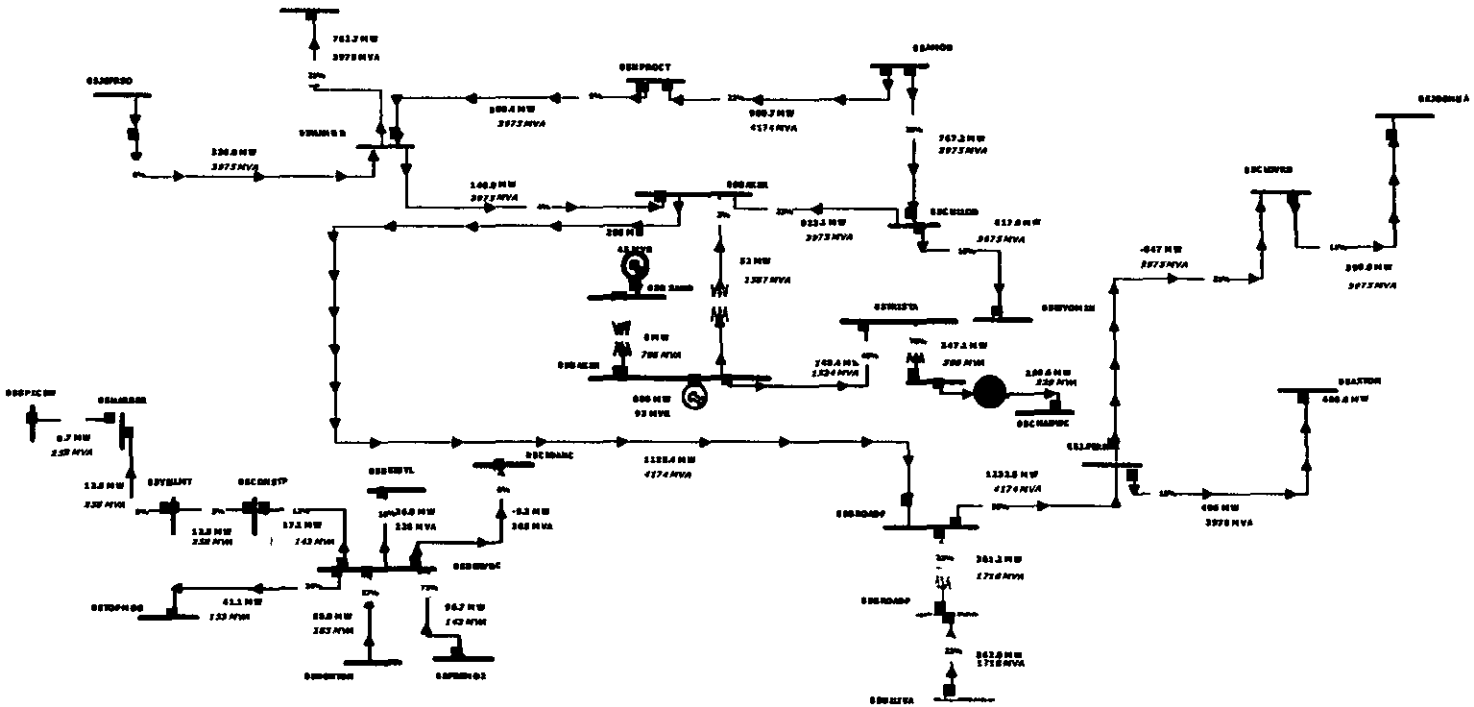


Exhibit B-23: Big Sandy-Baker 138/345 kV Transformer Contingency without the Project's Generation

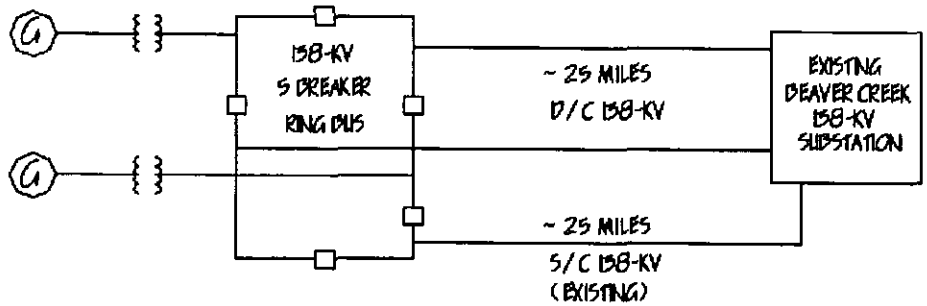


Exhibit B-24: 500 MW Generation: Interconnection Option A

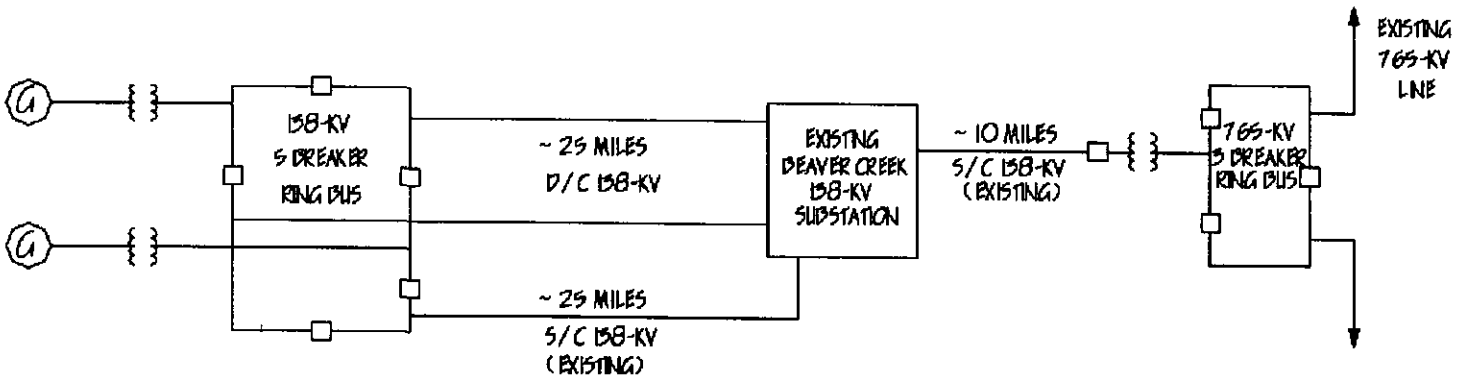


Exhibit B-25: 500 MW Generation: Interconnection Option B

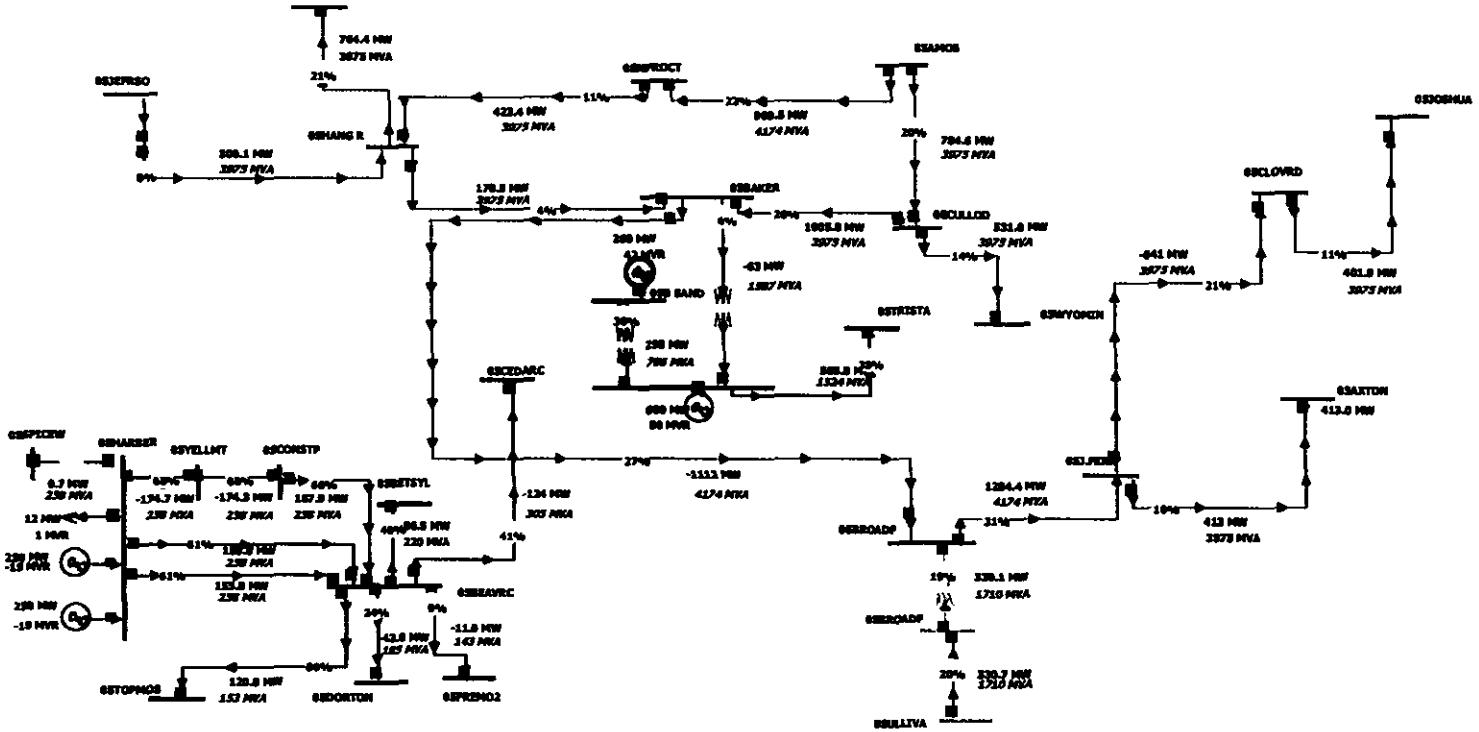


Exhibit B-26: 500 MW Generation: Interconnection Option A Power Flow Solution

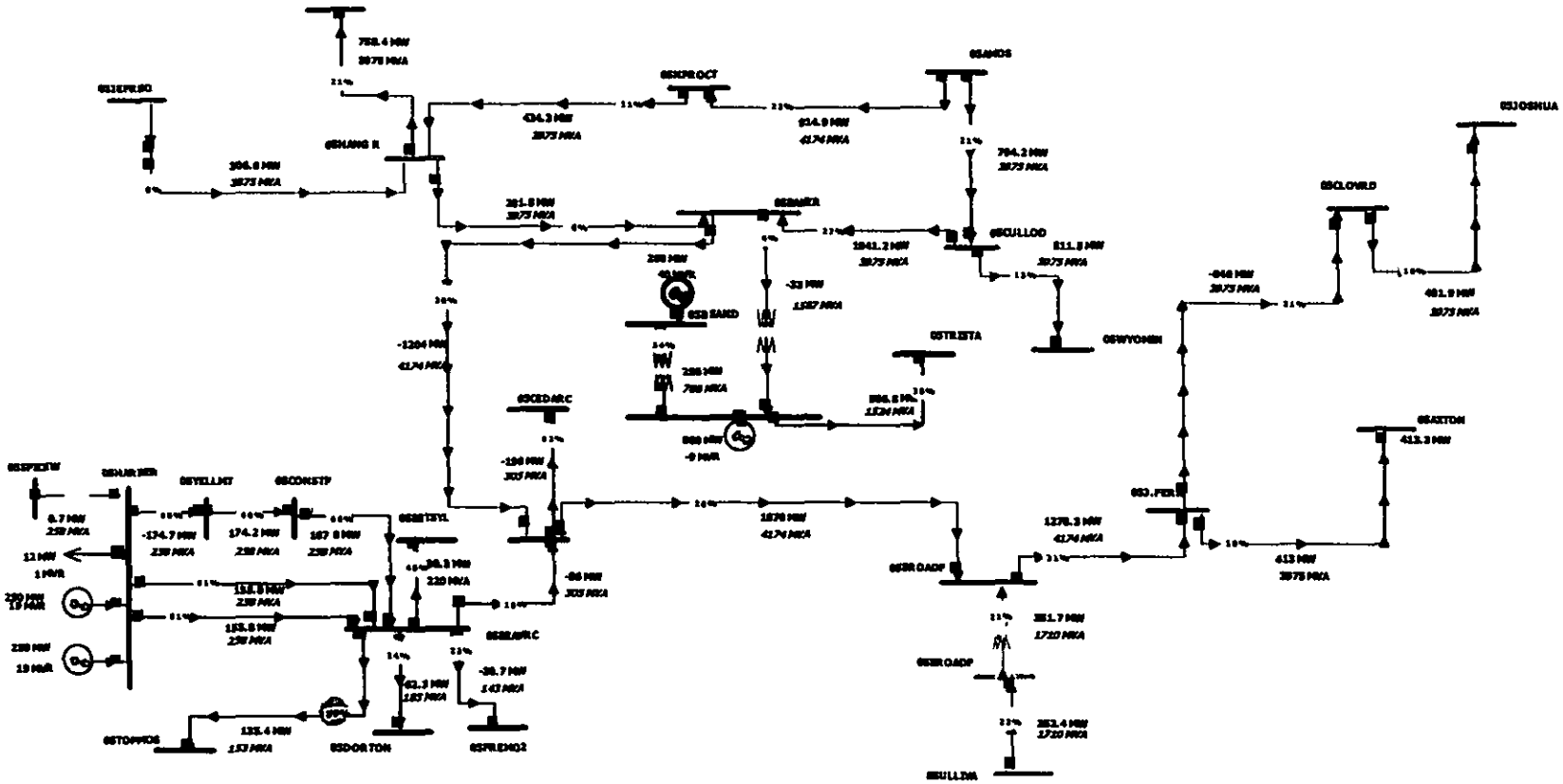


Exhibit B-27: 500 MW Generation: Interconnection Option B Power Flow Solution

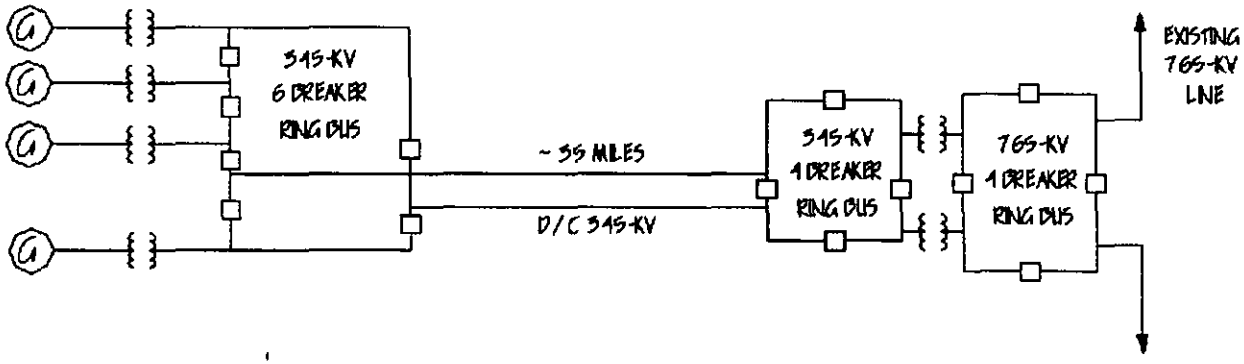


Exhibit B-28: 1000 MW Generation: Interconnection Option A

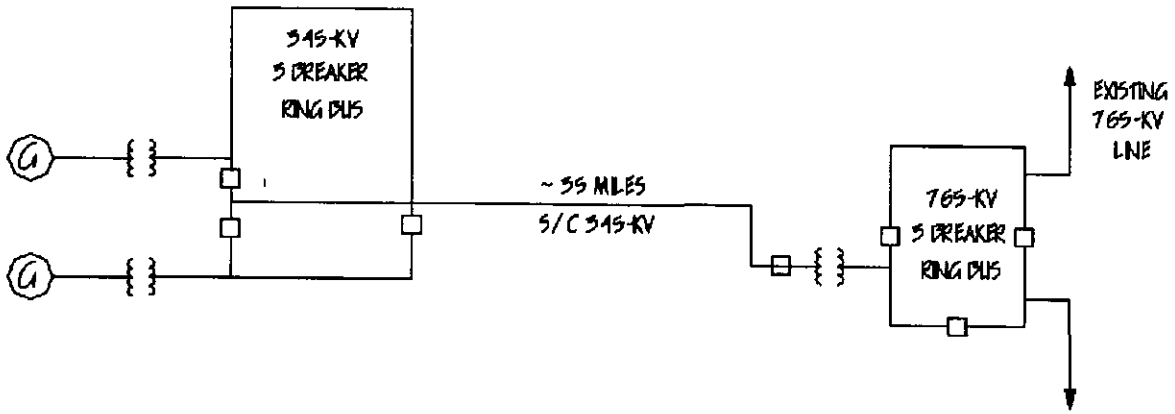


Exhibit B-29: 1000 MW Generation: Interconnection Option B
(Stage 2 after the 500 MW Generation – Option A)

System Impact Study
Phase I – Load Flow Analysis

System Impact Study
to Connect
EnviroPower's
New Generators
to the AEP Transmission Network

Knott County, Kentucky

Transmission System Analysis and Planning

August 2000

AEP: America's Energy Partner™

1. INTRODUCTION

EnviroPower, LLC (EnviroPower) by letter dated April 4, 2000, requested American Electric Power (AEP) to conduct a limited scope power flow analysis to evaluate the feasibility of connecting a new merchant generating plant to the AEP transmission system in the Beaver Creek-Hazard Area. EnviroPower plans to install a 500 MW plant facility near Hazard, Kentucky. The plant will comprise of two 250 MW base loaded waste-coal fired generation units. As shown in Figure 1, the closest 138 kV transmission facility to the plant site is the Harbert Station on the Beaver Creek-Spicewood 138 kV line. The line is about 8 miles away from the plant site. The Beaver Creek and Hazard 138 kV stations are at a distance of about 26 and 12 miles, respectively. The expected service date for the project is June 1, 2003.

This report addresses the following generation addition scenario:

- 500 MW generation of the new EnviroPower Plant connected near the plant site to a new 138 kV switching station:
    1. The new switching station would be integrated to the AEP transmission system via two new 138 kV lines – one each to Beaver Creek (via Harbert), and Hazard stations (Figure 2); or
    2. The new switching station would be integrated to the AEP transmission system via three new 138 kV lines – two to Beaver Creek Station (one direct and one via Harbert), and one to Hazard Station (Figure 3).

This analysis was conducted for interconnection feasibility purposes only. A complete System Impact Study will be required should transmission service be requested.

2. OVERVIEW OF POWER SUPPLY FACILITIES NEAR THE PROPOSED SITES

The Beaver Creek - Hazard area, the eastern most portion of the Commonwealth of Kentucky, is located within AEP's Southern Transmission Region. Stations on the Beaver Creek-Hazard-Pineville line serve a major portion of the area load. As shown in Figure 1, the transmission facility closest to the plant site is the Harbert Station on the Beaver Creek-Spicewood 138 kV line. This line which is radially connected to the Beaver Creek Station, serves several coal-mining customer loads. The line capacity is limited by the 795 kcm ACSR conductor (Summer normal and emergency ratings 258/345 MVA). The Hazard Station, located at approximately 12 miles south of the proposed plant site, connects to the rest of the AEP transmission system via two transmission lines. These are to the Beaver Creek 138 kV Station and to the Leslie 161 kV Station (connected via three single-phase 45 MVA, 161/138 kV, transformer units). The combined summer normal and emergency thermal capabilities of these two outlets are 327 and 396 MVA, respectively. Hazard Station also serves the local area sub-transmission load via two 138/69 kV Transformers. The Beaver Creek Station, a major switching station in the area is about 26 miles away from the EnviroPower's proposed plant site. The ± 125 MVAr Static VAR Compensator and four (4) 138 kV shunt capacitors at the Beaver Creek Station together with capacitor banks at several other stations provide reactive power and voltage support in the area.

Phase voltage unbalance exists on the AEP transmission system in the Beaver Creek - Hazard area. The unbalance is affected by changes in system conditions, and consequently varies over time. Consequently, it is recommended that EnviroPower plant equipment be rated accordingly.

3. SCOPE OF STUDY

The scope of this study was to develop a load flow base case for the 2003 summer period, and conduct a load flow analysis to determine possible thermal and voltage limits on the transmission system resulting from the proposed EnviroPower generation addition. The study focused on evaluating the feasibility of integrating the proposed 500 MW merchant generating plant into the AEP transmission system at 138 kV, as outlined above. AEP has an existing 161 kV interconnection with Tennessee Valley Authority (TVA) in the area. Therefore, these study results would have to be shared with TVA for review of the impact on their system.

This study did not include short circuit or stability analyses. These studies are presently being conducted by AEP. The results of those studies will be forwarded at a later date. Therefore, the results are preliminary in nature and do not define the full impact of the generation addition. Furthermore, detailed engineering and system studies will be required to clearly define the facilities needed to address potential transmission problems and to integrate the proposed merchant plant into the AEP transmission system. The third phase of the system impact study, namely the facility connection study, will identify specific facility additions needed to integrate the new merchant plant into the AEP network and to address the specific problems identified in the load flow, short circuit, and stability studies (Phase 1 and Phase 2).

Transmission service requests must be made to deliver the output of the merchant plant to specific points of delivery and these transmission service requests must be made in accordance with the AEP Open Access Transmission Tariff (OATT). This study addresses only the feasibility of integrating the merchant plant to the AEP system and does not address the availability of transmission capability to support transmission services to deliver the output of the merchant plant to specific points of delivery.

Furthermore, AEP is in the process of obtaining state certification and federal permits for a 765 kV system reinforcement project in the Southern Transmission Region (STR). The earliest possible date for the completion of the 765 kV project is January 2004. Before the completion of this 765 kV reinforcement project, AEP will not be able to accommodate requests for long-term firm north-to-south transmission service through the Southern Transmission Region. Details of this transmission access policy can be found on AEP's OASIS and is included as Appendix A.

4. TESTING CRITERIA

Both linear and AC load flow analyses were conducted to investigate the impact of the new generation addition on the AEP transmission network and neighboring systems in the vicinity.

Since the impact of the proposed generation addition on the local transmission system facilities is studied for the peak load system condition for the initial year of service only, transmission margin needs to be provided to ensure the reliable delivery of electric power to continuously

changing customer demands under a wide variety of system operating conditions. The level of transmission margin has been quantified using three distinct impact factors – weather, economic conditions (translated to annual load growth), and unpredictable external factors. For a period of five to ten years into the future, a 13% transmission margin is applied by making adjustments to the transmission facility ratings. Consequently, 138 kV and lower voltage sub-transmission facility loadings greater than 87% of the applicable facility ratings are indicated in this report.

For EHV facilities, the normal rating is used to assess normal and single-contingency outage performance, while the emergency rating is used for double-contingency outage conditions. EHV facility loading should be limited to 100% of the applicable rating.

The details of the transmission system thermal and voltage performance test criteria used in this study are included as Appendix B.

5. POWER FLOW BASE CASE DEVELOPMENT

AEP's 1999 series of IPP Study cases was used as the starting point to develop a base case to conduct the load flow studies. The 2003 summer case was utilized for the studies. This case contains a detailed model of AEP's transmission and sub-transmission systems, as well as a peak load forecast of the AEP system for the 2003 summer time period. The outside world (non-AEP) model in this case was developed from the 1999 series of the NERC/MMWG 2003 summer case.

The proposed EnviroPower generating plant was assumed to have a maximum summer capacity of 500 MW with 85% lagging power factor to 95% leading power factor. The study assumed no other generation additions in this area.

Because facility ratings are lower during the summer season as compared to the winter season, and given that summer and winter load levels for the subject area are comparable, the focus of the load flow analysis was on projected 2003 summer conditions. A limited load flow case analysis, however, was conducted for winter peak load condition.

Only one dispatch scenario was developed, due to the already complex nature of this study. Under the modeled dispatch scenario, power from the proposed EnviroPower merchant generating plant was dispatched to serve loads within the AEP system as if the buyer was in the AEP control area. Other dispatch scenarios, not included in this study, could produce somewhat different results. A complete analysis is recommended if EnviroPower's generation addition is confirmed and the information regarding the potential buyer(s) is firmed up.

6. AC POWER FLOW ANALYSIS AND RESULTS

Credible single and double contingency outages were simulated to evaluate the impact of the merchant plant, at the 500 MW generation level, on the AEP transmission and sub-transmission systems. Results of the AC load flow analysis for the projected 2003 summer system conditions are discussed in the following sections:

Section 6.1 – Beaver Creek - Hazard Area Existing System Conditions.
Section 6.2 – EnviroPower generation connected to the AEP 138 kV Transmission System as shown in Figure 2.
Section 6.3 – EnviroPower generation connected to the AEP 138 kV Transmission System as shown in Figure 3.

Section 6.1 – The Beaver Creek - Hazard Area Existing System - Load Flow Analysis:
Power flow patterns on the 138 kV transmission system in the vicinity of the Beaver Creek and Hazard stations are shown in Figures 4.1 and 4.2. These power flow conditions are with all facilities in service, and without the proposed merchant plant generation. Figure 4.1 shows the 138/161 kV line and transformer flows in the vicinity of the Beaver Creek and Hazard stations. As can be seen the majority of the area load – in excess of 200 MW is served via the Beaver Creek-Hazard and Hazard-Pineville lines. These two lines are critical in providing reliable supply of power in the area. Figure 4.2 illustrates the flow of power into the lower voltage sub-transmission system at the Hazard Station. The figures also show the capabilities of critical facilities. All facilities are loaded within their normal ratings and the bus voltages are within the prescribed limits.

Attached Table 1 lists the critical facilities in the area, their normal and emergency ratings and base case loading on these facilities. In addition, it lists several single contingencies that are critical in providing reliable service to this area. The study results indicate that with the exception of one line (which could be improved by enhancing the voltage profile in the area) the single contingency outages would result in transmission system facility loadings well within their respective capabilities.

Section 6.2 - EnviroPower generation connected to the AEP 138 kV Transmission System as shown in Figure 2:

This scenario assumes only two 138 kV plant outlets – one to Beaver Creek Station via Habert Station and the other to Hazard Station. The facilities that are expected to carry heavy loadings due to the generation addition in the area are as follows:

Beaver Creek-Spicewood 138 kV Line
Normal Rating 258 MVA
Emergency Rating 345 MVA
The line has not been sag checked for proper clearance. Consequently, the line could not be operated at loadings above the normal rating.

Beaver Creek-Hazard 138 kV Line
Normal Rating 153 MVA
Emergency Rating 194 MVA
The line has not been sag checked for proper clearance. Consequently, the line could not be operated at loadings above the normal rating.

Hazard 138/161 kV Transformer

Normal Rating 174 MVA
Emergency Rating 202

Hazard-Leslie 161 kV Line
Normal Rating 182 MVA
Emergency Rating 224 MVA
The line has not been sag checked for proper clearance. Consequently, the line could not be operated at loadings above the normal rating.

Leslie-Pineville 161 kV Line
Normal Rating 172 MVA
Emergency Rating 172 MVA

In addition to the above facilities several other 138/lower-voltage transformer and sub-transmission lines also load heavily during normal and contingency conditions.

Figure 5.1 shows power flow patterns under the same system conditions as in Section 6.1, but with the addition of the proposed 500 MW generation connected to the AEP System via two 138 kV transmission lines as shown in Figure 2. As shown, about 300 MW will flow to Hazard and the remaining 200 to Beaver Creek. All facility loadings remain within their normal ratings. However, single contingency outage of any one of the two plant outlets will result in thermal overloads. For example, an outage of the Hazard line will load the Beaver Creek line to well above its emergency ratings of 345 MVA (Figure 5.2). Similarly the outage of the Beaver Creek line would result in thermally overloading of the Beaver Creek Hazard 138 kV Line (Figure 5.3).

Because of the overload concerns of the thermally limited plant outlets, no additional contingency analysis was carried out for this scenario.

Section 6.3 - EnviroPower generation connected to the AEP 138 kV Transmission System as shown in Figure 3:

This scenario assumes three 138 kV plant outlets – two to Beaver Creek Station (one direct line and one via the Harbert Station) and a third to Hazard Station. The same facilities as listed above in Section 6.2 are expected to carry heavy loadings due to the generation addition in the area.

Figures 6.1 and 6.2 illustrate power flow patterns under the same system conditions as in Section 6.1, but with the addition of the proposed 500 MW generation connected to the AEP System via three 138 kV transmission lines as shown in Figure 3. Figure 6.1 shows the 161/138 kV transformer and line flows in the vicinity of the Beaver Creek and Hazard stations. As can be seen the two 138 kV lines to Beaver Creek carries about 260 MW and the line to Hazard carries about 240 MW. Comparison of Figure 4.1 and Figure 6.1 indicates that all transmission line loadings in the vicinity of the EnviroPower Plant have decreased with the exception of the Beaver Creek-Habert 138 kV line loading. Figure 6.2 shows the transformer and line power flows into the lower voltage sub-transmission system at the Hazard Station. Comparing this to Figure 4.2 indicates increase in flow of about 30 MW into the sub-transmission system. All

facilities, however, are loaded within their normal ratings and the bus voltages are within the prescribed limits.
Attached Table 2 is similar to Table 1. It lists the critical facilities in the area, their normal and emergency ratings and base case loading on these facilities with the EnviroPower generation connected as shown in Figure 3. In addition, it lists the same contingencies that are critical in providing reliable service to this load area. The study results indicate that single contingency Hazard transformer outages would cause heavy sub-transmission transformer and line loadings. The 138/69 kV transformer loading, during the first year of EnviroPower Plant operation, would be as high as 112 % of its emergency capability.

7. SUMMARY AND CONCLUSION

1) The existing Beaver Creek - Hazard transmission system is planned for and maintains reliable service during normal and single contingency conditions. The transmission and the sub-transmission systems are not designed for double contingency outages.
2) Connecting the EnviroPower 500 MW generation facility at AEP's 138 kV system as shown in Figure 2, with two line exits, would result in severe single contingency line over load conditions.
3) Connecting the EnviroPower 500 MW generation facility at AEP's 138 kV system as shown, with three line exits, would provide the needed line capacity to transmit the proposed generation. Hazard 138/69 kV transformer and sub-transmission facilities would experience increased loadings as a result of the generation addition. A new 138/69 kV station or increased transformer capacity, line re-configuration and re-conductoring could be required. Additional sag studies would be needed to determine 138 kV emergency line capabilities.
4) The short circuit and stability studies are presently being conducted by AEP as part of the phase 2 studies. The results of those studies will be forwarded at a later date. The third phase of the system impact study, namely the facility connection study, will identify specific facility additions needed to integrate the new merchant plant into the AEP network and to address the specific problems identified in the load flow, short circuit, and stability studies.
5) This Phase 1 System Impact Study only addresses the feasibility of integrating the merchant plant into the AEP transmission system, and does not address the availability of transmission capacity to deliver the plant output to specific destinations. Transmission service requests would need to be made in accordance with the AEP Open Access Transmission Tariff.
6) This Phase 1 study addresses the impact of the proposed EnviroPower 500 MW generation independent of any other merchant generation additions to the AEP system in the Beaver Creek - Hazard area. If another IPP commits to installing generation in the general vicinity prior to any commitment by EnviroPower, then a new study would be required to assess the EnviroPower generation addition, and the study results contained in this report would no longer be valid.
7) These study results would have to be shared with Tennessee Valley Authority for review of the impact on their system.

APPENDIX A

OASIS POSTING

Transmission Access Policy for AEP System North to South Transmission Corridor

Every transmission network has a finite amount of capability to support the transfer of power. From time to time, the amount of power transfer that the transmission network may be called upon to handle could exceed its capability, which in turn, could lead to the overloading of transmission lines, and potential reliability problems. Until such time as enhancements can be made to increase the capability of the network, the network would need to be operated in recognition of its limitations.

The AEP transmission network, extending from Charleston-Huntington, West Virginia toward Roanoke, Virginia, is dedicated to serving the AEP native load and other loads connected to this network located in the southern West Virginia and southwest Virginia region. This transmission network has a prevailing north-to-south and west-to-east power flow pattern, since generation resources to serve the majority of these customer demands are generally located north of this region. The increase in power demands of customers in this region will result in a corresponding increase in transmission line loading levels in the north-to-south and west-to-east directions. This transmission network has defined limitations, and currently is oftentimes operated near or at its maximum safe operating capability. At those times, emergency operating procedures must be implemented so that the loading levels on certain transmission lines can be reduced to reliable operating levels in the north-to-south and west-to-east directions. AEP has in place a series of emergency operating procedures, which are used to control critical line loadings to safe levels. These operating procedures include, among other measures, the interruption of firm connected customer load to protect the integrity of the bulk transmission network in this area.

AEP is committed to increasing the capability of this constrained transmission interface with the construction of the Wyoming-Cloverdale 765-kV line or the alternative Wyoming-Jacksons Ferry 765 kV line. This major transmission reinforcement was announced by AEP in 1990 for service in the late 1990s. Because of the need for certification from state and federal authorities, which has taken much longer than originally expected, the service date for this transmission reinforcement is not expected now before 2004 at the earliest. Until a 765 kV transmission reinforcement is in place, AEP will need to assure the reliable operation of the critical transmission interfaces by the use of the operating procedures indicated above.

Regarding requests for transmission service through this constrained transmission area in a north-to-south direction, in accordance with FERC Order 888A, AEP will be able to provide non-firm transmission service in varying amounts depending on the determination of available transfer capability (ATC) at the time of the request. Our present outlook is that AEP will not be able to accommodate requests for long-term firm north-to-south or west-to-east transmission service through this area. During the next several years, parties requiring firm transmission service in a north-to-south or west-to-east direction can firm-up available non-firm transmission service by making arrangements for standby generation supplied in areas located to the south or southeast of AEP's constrained transmission interface. This standby generation can be utilized whenever the non-firm north-to-south or west-to-east transmission service needs to be curtailed due to transmission system reliability considerations. This "firming" option will be available to any marketer of generation services, including AEP's own bulk power marketing organization.

Posted on May 23, 1997
Updated on May 10, 2000

APPENDIX B
Generation Connection Studies
Process and Criteria for Evaluating the Impacts on the AEP Transmission System

The underlying premise of American Electric Power's (AEP's) process and criteria to evaluate the integration of new or expanded generating plant facility is that the generation facility owner should be responsible to mitigate any negative transmission system effects on service reliability to existing transmission customer through the reinforcement of the network.

AEP meets its obligation to supply electricity demanded by its transmission customers with a high degree of reliability through a carefully planned transmission system. As it is impossible to anticipate or test for all possible system conditions, the transmission system is designed with margins for contingencies and to deal with other uncertainties such as customer load variations, etc. Availability of these margins is essential to avoid uncontrolled, area-wide power interruptions. Planning an optimal transmission system requires the application of fundamental principles and establishment of criteria, which balances reliability against cost to provide them. Details of the planning practices and criteria used by AEP to insure the continued reliability of the system are described in the AEP Form 715 filing with the FERC. The testing criteria used in the planning of the AEP transmission system are summarized in the following table:

AEP Transmission Planning Criteria
(Steady State Performance)*

Transmission System Configuration	Maximum Facility Loading (Rating)	Minimum Bus Voltage EHV	Minimum Bus Voltage 138 kV
All Facilities in Service	Normal	95%	95%
One Facility out of Service	Normal (1) Emergency (2)	90%	92%
Two Facilities out of Service	Emergency	90%	92%

* Extracted from AEP FERC Form 715 – Annual Transmission Planning and Evaluation Report, 1999 Filing.
(1) Facility planning criteria (EHV facilities.)
(2) Facility planning criteria (138 kV facilities.)

In the evaluation of generating plant connection to the AEP transmission system, the planning criteria outlined in the table above must be adhered to not only for the initial year when the plant is scheduled to be placed in service but for a period of at least 5 to 10 years thereafter. In addition, the evaluation must also recognize that the EHV and high voltage transmission systems were not originally designed with the intent to accommodate generating plant connections. The EHV transmission system was designed to transmit electric power from remotely located large base-loaded power plants to local area loads. The 138 kV and the lower voltage local transmission systems were designed to distribute this power from the point of connection with the EHV transmission system to the point of consumption (i.e., directly connected customer facilities, distribution system, etc.). While the EHV transmission system in some areas may have capacity to accommodate moderate levels of new generation without significant system impacts, the local transmission, with normally smaller capacities, may not have margin available to easily integrate the new generation. New generating capacity may be typically an order of magnitude greater than the connected loads (e.g., 300 MW Plant vs. 10-30 MW of connected load at a single node). In addition, circuit breakers may become over dutied, as the new generating facilities will add to the fault current.

The AEP 138 kV and lower voltage transmission systems are designed to provide margins for specific and distinct changing conditions. These can be grouped as changes in economic conditions within the service areas where local customer loads are connected, changes in weather conditions, and other unpredictable factors. All these result in changing customer load patterns. The study process for determining and implementing future facility modifications or additions takes into consideration a 5 to 10-year load growth. These analyses are conducted for normal peak load and contingency conditions to ensure continuous and reliable power delivery to the local transmission system customers.

To provide a timely response to generating facility owners, the impacts of the new generation capacity additions are studied for peak load system conditions for the initial year of connection only. Therefore, a transmission margin must be maintained to ensure reliable delivery of electric power to the continuously changing customer demands. Based on a five to ten year planning horizon and a moderate load growth rate of about 1.2 to 2.5 % per year, a minimum of 13 % transmission margin is required. This value is applied in these criteria by making transmission facility rating adjustments, i.e., thermal loading during normal and contingency conditions shall remain within 87 % of line or transformer emergency capabilities during the first year of generating plant operation.

As part of the process to evaluate new capacity addition requests for connection to the transmission system, the cost responsibility of the generating plant must be assessed by applying AEP's planning criteria over a reasonable planning horizon. The application of AEP's criteria in examining generating plant connection is consistent with the existing AEP practices and criteria that are used in defining potential problems and implementing future system modifications or additions. **The intent of the process in applying AEP's criteria in the evaluation of new generating capacity connection to the system is to maintain a level of service reliability, with the new generating capacity in service, comparable to the level that existed prior to the new generating capacity connection.** The process described below is designed to maintain the prevailing level of service reliability and quality to existing customers.

The process to apply AEP's planning criteria in determining cost responsibility for system enhancements associated with the connection of new generating capacity is detailed below:

Transmission Line Loading:

- For testing the bulk transmission system, facility normal ratings should not be exceeded for normal or single contingency conditions. Normal capabilities are used to compensate for the greater variability and uncertainty associated with bulk transmission loading patterns. For double contingency on the bulk transmission system, no facilities should exceed their emergency rating. This is consistent with the FERC Form 715 - Annual Transmission Planning and Evaluation Report. Therefore, if, as a result of the added generation, the loading on an EHV line would exceed its normal capability, during normal or single contingency conditions, the generating plant owner shall be responsible for all system modifications required to restore the line loading to within the normal capability. Likewise, if as a result of additional generation, the loading on an EHV facility would exceed its emergency rating during double contingencies, the generating plant owner shall be responsible for the necessary system modifications to restore the EHV facility loading to within emergency capability.
- If, as a result of the added generation, 138 kV transmission line loadings exceed the normal rating of the conductor during normal or contingency conditions and the line has not been checked for safe conductor clearance, the generating plant owner shall pay AEP to conduct a study to check for appropriate sag clearance. Conductor thermal ratings, assuming that adequate line clearance can be maintained, are based on mechanical considerations (i.e., conductor breaking strength). Conductor normal ratings are based on thermal loading conditions, which would results in no loss of strength. AEP planning criteria and operating procedures do permit AEP's 138 kV circuits to be loaded well above the normal rating (i.e. up to the AEP emergency conductor capabilities) following contingency outages of other facilities. Circuit loadings above the normal ratings, however, require sag check for

adequate line clearances. If the sag checks indicate any sag violations that limit the line to less than the conductor emergency capability, the generating plant owner shall pay for the removal of those limitations.

- If, as a result of the added generation, a 138 kV transmission line loading exceeds 87% of emergency rating of the line, during either normal or contingency conditions, the generating plant owner shall be responsible for all system modifications to restore the line loadings to within 87% of emergency rating or to the line loading level which would occur without the generation, whichever is higher. In some cases, limiting terminal equipment must be replaced in order to increase the capability of the line. In other cases, system improvements may be required.

- If, as a result of the added generation, transmission lines operated below 138 kV are loaded above 87% of the respective conductor capability during either normal or contingency conditions, the generating plant owner shall be required to pay for the system improvements, including the replacement of limiting station facilities, that will lower the line loading to below 87% of the line capability or to the line loading level which would occur without the generation, whichever is higher.

Transformer loading:

- If, as a result of the added generation, the loading on an EHV/EHV transformer would exceed its normal capability, during either normal or single contingency condition, the generating plant owner shall be responsible for all system modifications required to restore the transformer loading to within the normal capability or to the transformer loading level which would occur without the generation, whichever is higher.

- If, as a result of the added generation, the loadings on any EHV/138 kV or lower voltage transformer exceeds 87% of its emergency rating, during either normal or contingency conditions, the generating plant owner shall be responsible for reducing the transformer loadings to below the 87% of the transformer emergency rating, or to the loading level which would occur without the generation, whichever is higher. System improvements may be required to achieve this goal.

Short Circuit Duty:

- If the short circuit duty of any existing circuit breaker would exceed its rating due to the installation of the new generating capacity addition, the generating plant owner shall be responsible for the cost to replace the affected equipment. In addition, short circuit margins exist at many stations on the AEP System to accommodate future system modifications (such as addition of a transformer, lines, etc.) which may be required within the 5 to 10 year planning horizon to accommodate load growth. If the installation of the new generating facility depletes these margins, the generating plant owner shall be responsible for the cost on a pro rated basis (percent of margin depleted by the installation of the new generating capacity addition) to replace these margins. The margins are to be calculated based on the difference between the existing short circuit duty and the projected short circuit duty with the next planned facility in service.

Transmission system improvements may be required to accommodate the new generating capacity connection to the transmission system in order to avoid negative reliability impacts to the local customers connected to the AEP transmission system. Additional system improvements may also be required to transmit the output of the new generating capacity across the existing transmission system. The latter is referred to as transmission service under the FERC OATT. The OATT specifies the types of transmission service available and the procedure to evaluate the transmission system performance and associated system improvements in order to permit the transmission of power across the network. Separate studies can be requested by the generating plant owner to evaluate the ability of the overall transmission system to transmit the output of their generation to the point of delivery and to secure the appropriate transmission service.

FIGURE 1

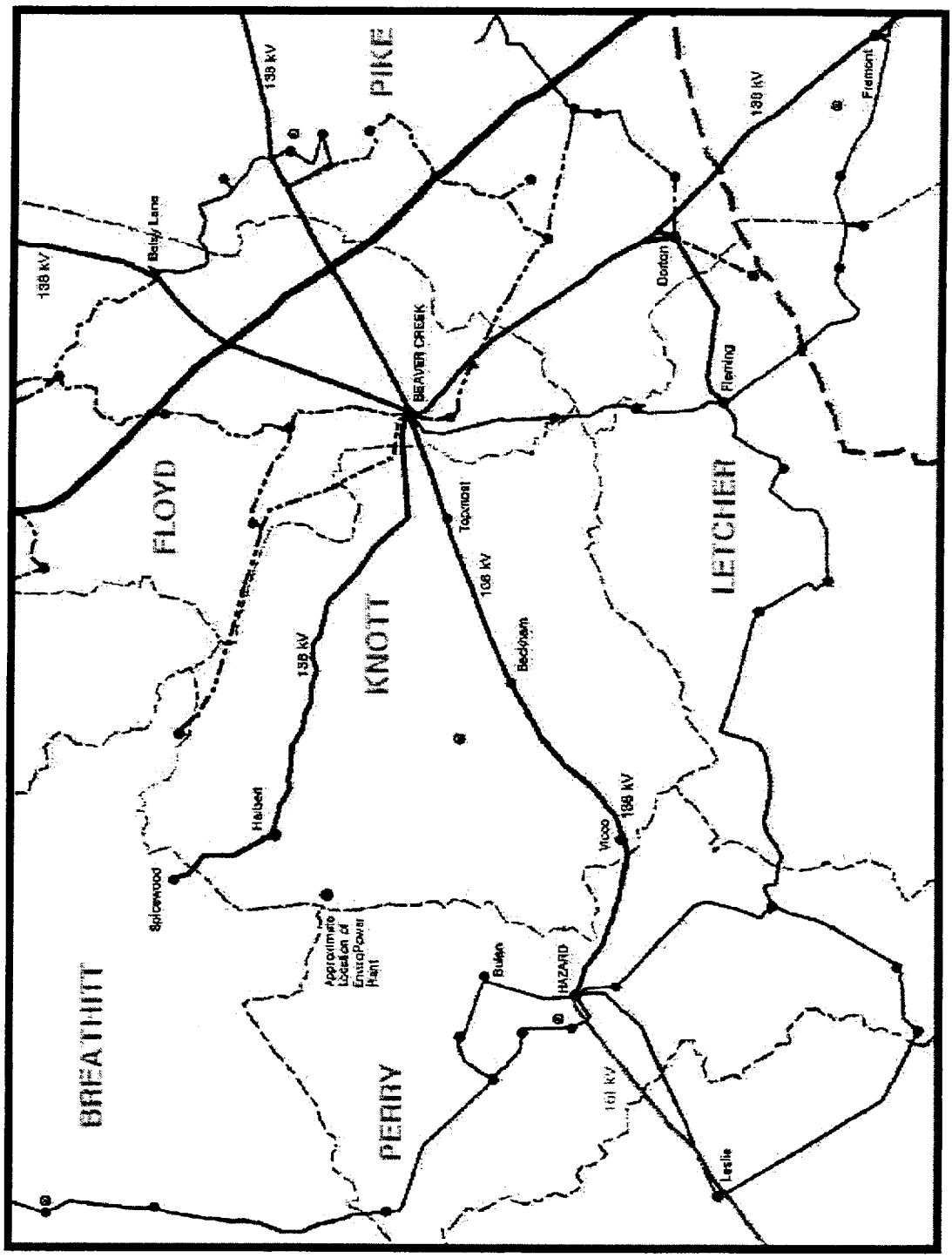

PIKE
FLOYD
KNOTT
LETCHER
PERRY
BREATHITT
138 kV
BEAVER CREEK
Belfry Lane
Dorton
Fleming
Fremont
Topmost
Beckham
Hazard
Wooo
Hebert
Splendwood
Approximate Location of EnviroPower Plant
Bulan
HAZARD
Leslie

FIGURE 2

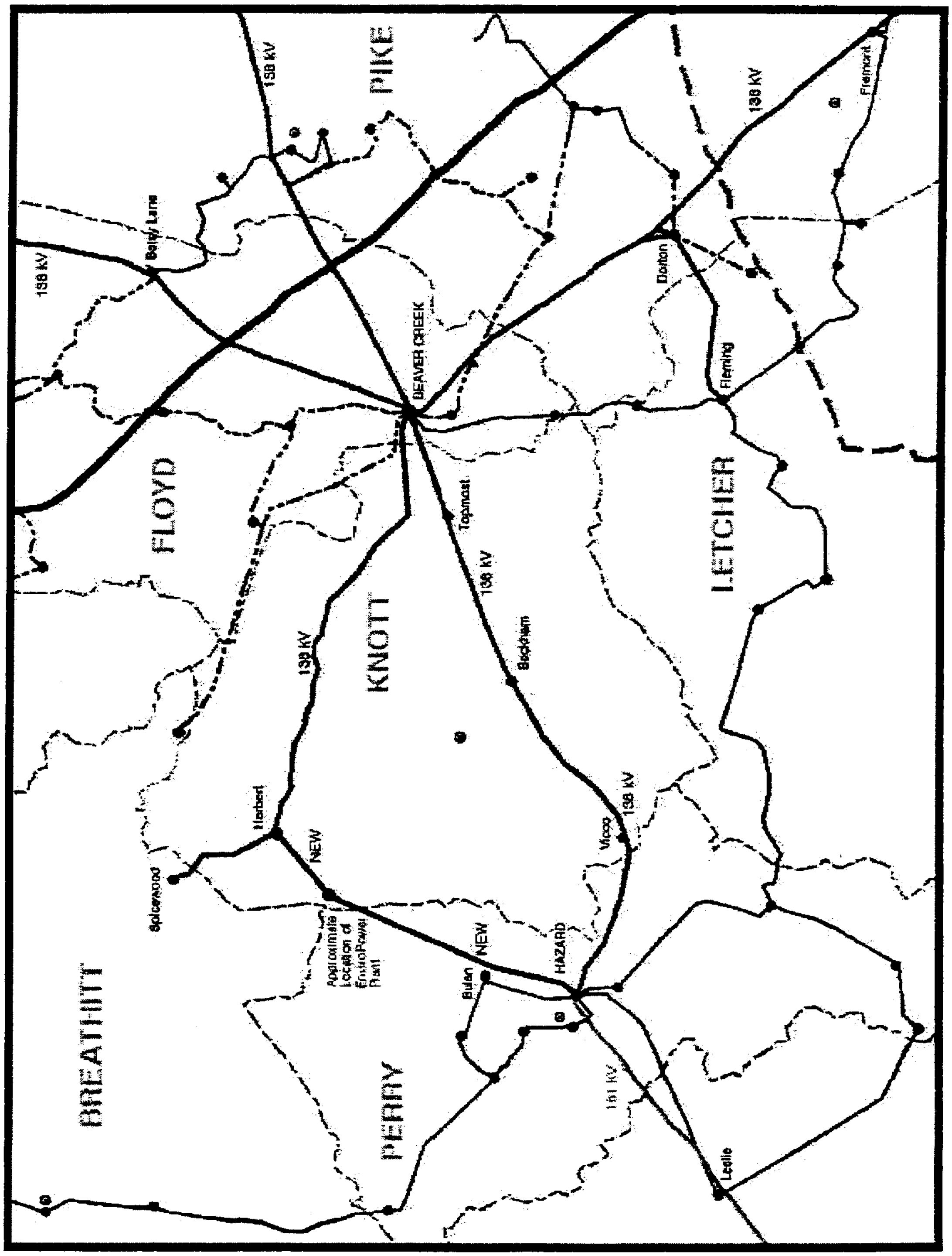

PIKE
FLOYD
KNOTT
LETCHER
BREATHITT
PERRY
BEAVER CREEK
138 kV
138 kV
138 kV
138 kV
138 kV
138 kV
161 kV
Betsy Layne
Dorton
Fleming
Fremont
Topmost
Beckham
Vicco
HAZARD
NEW
NEW
NEW
Herbert
Spicewood
Bulan
Leslie
Approximate Location of EnviroPower Plant

FIGURE 3

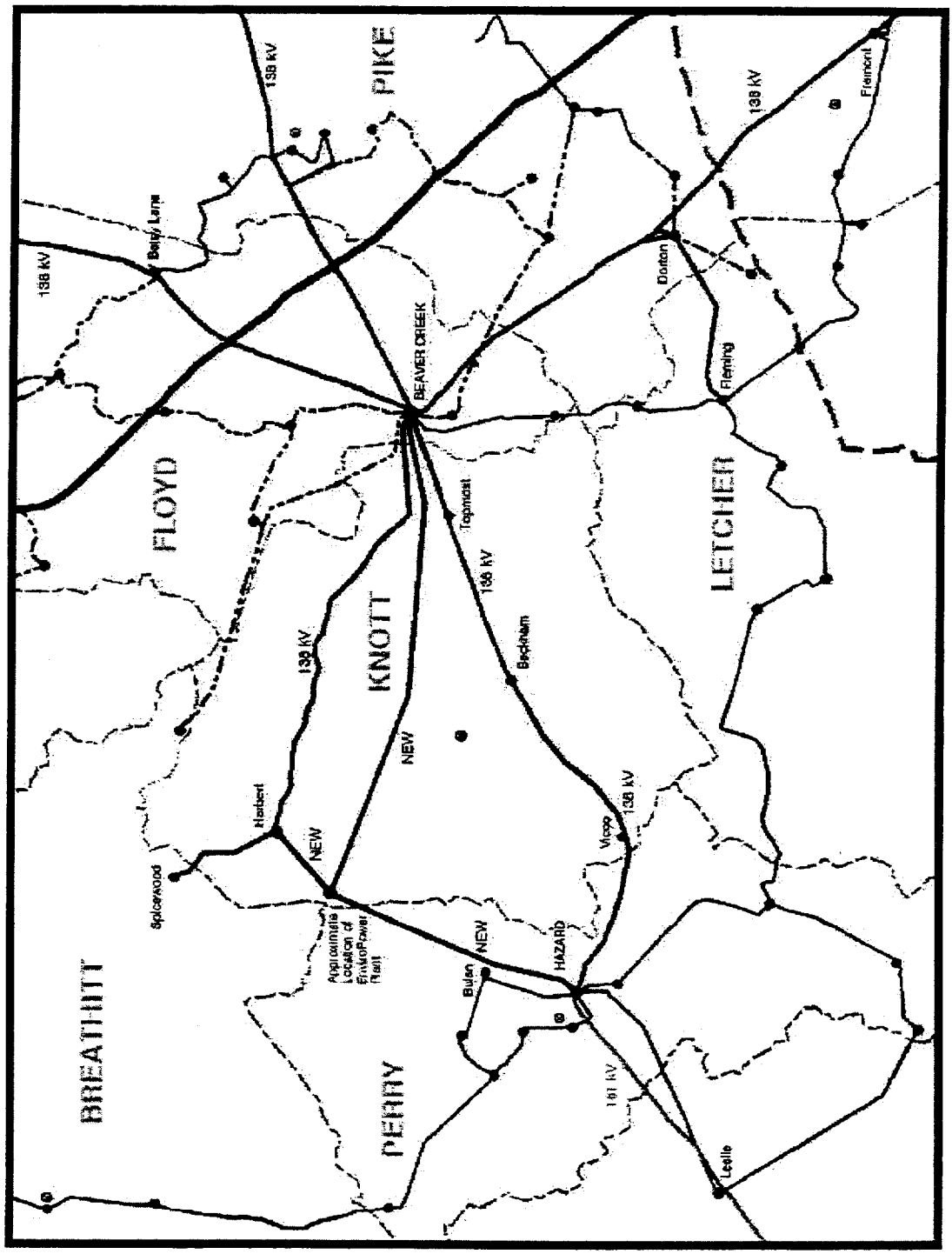
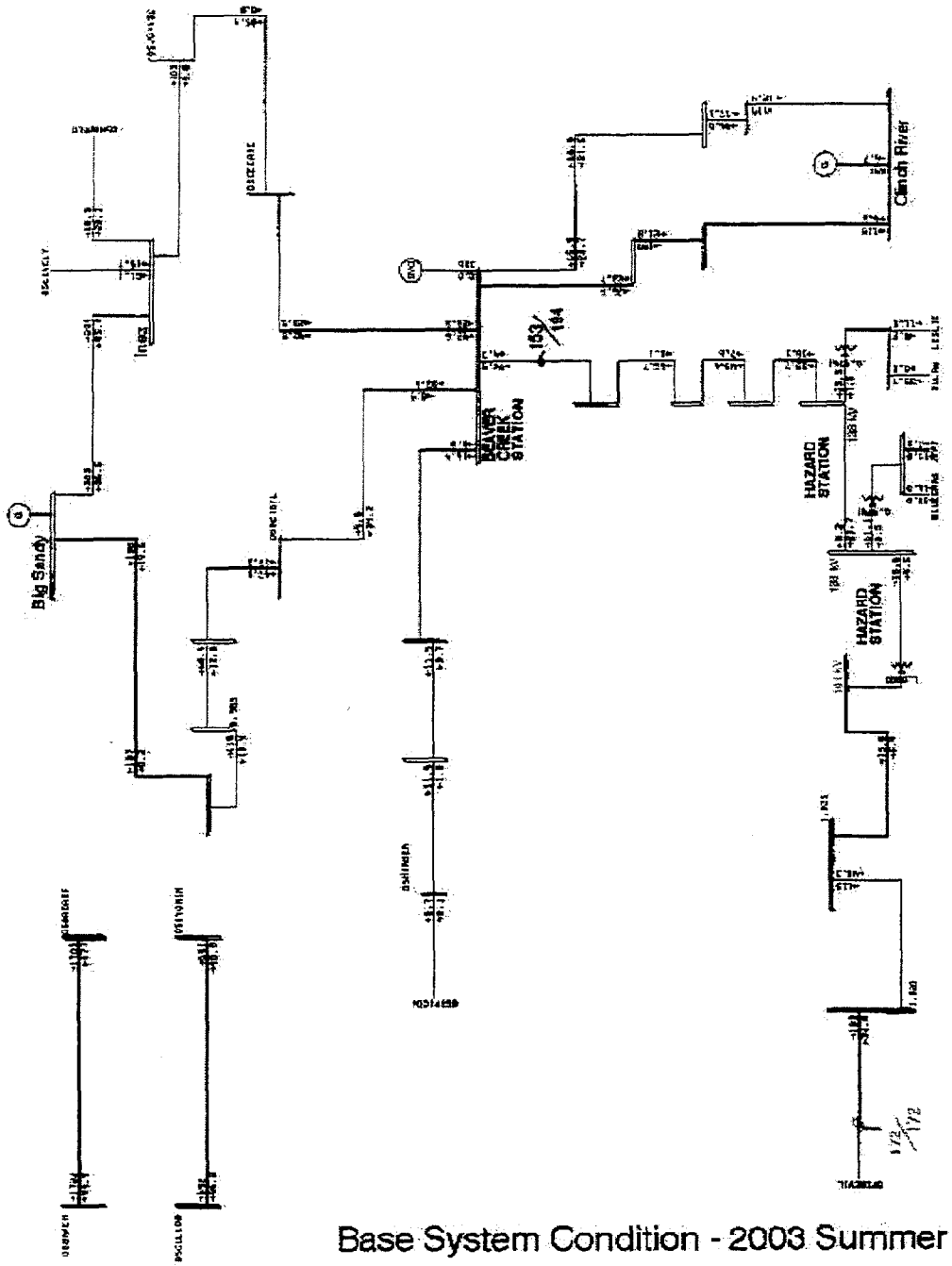
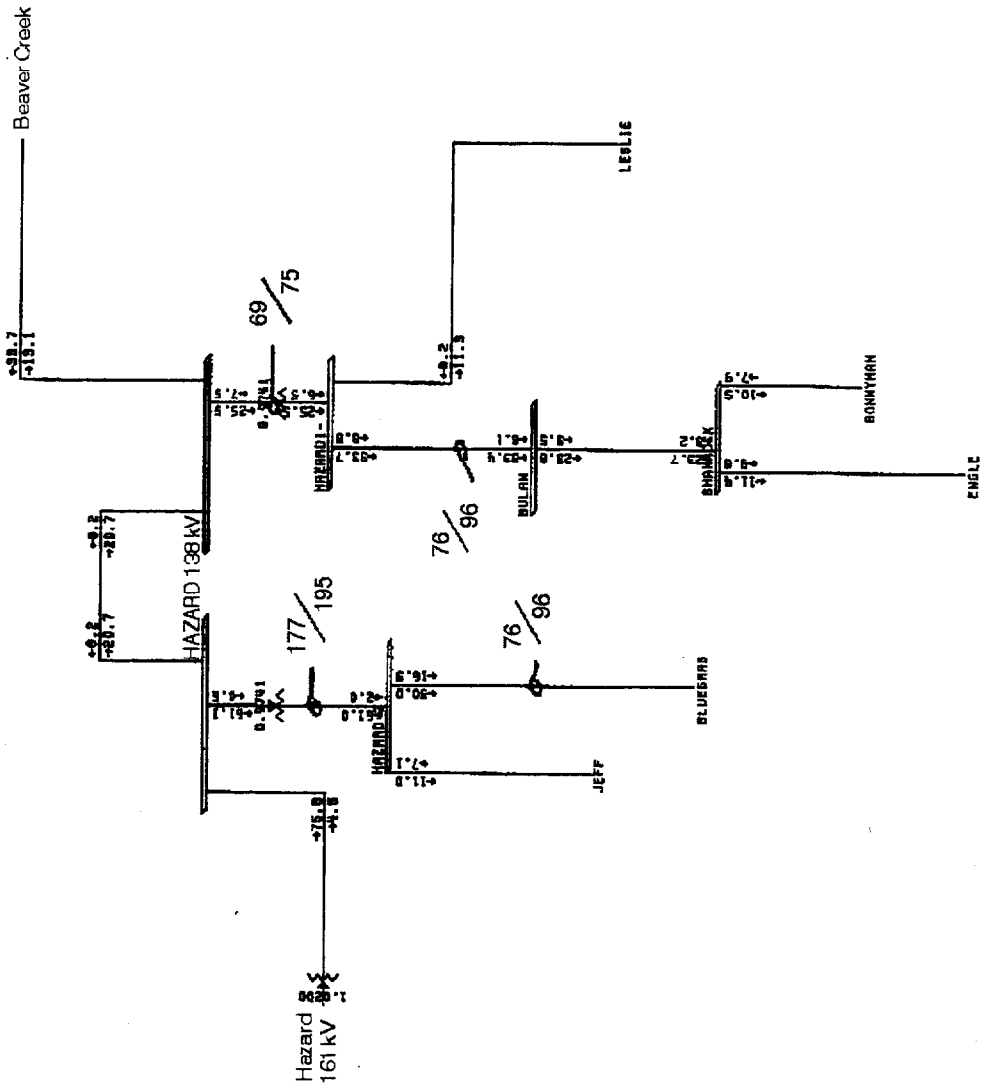

PIKE
FLOYD
KNOTT
LETCHER
PERRY
BREATHITT
BEAVER CREEK
HAZARD
NEW
NEW
NEW
Approximate Location of EnviroPower Plant
138 kV
138 kV
138 kV
138 kV
138 kV
138 kV
161 kV
Betty Lane
Dorton
Fremont
Fleming
Topmost
Buckhorn
Harbert
Spicewood
Viper
Bulan
Leslie

FIGURE 4.1



Base System Condition - 2003 Summer

FIGURE 4.2



Base System Condition - 2003 Summer

FIGURE 5.1

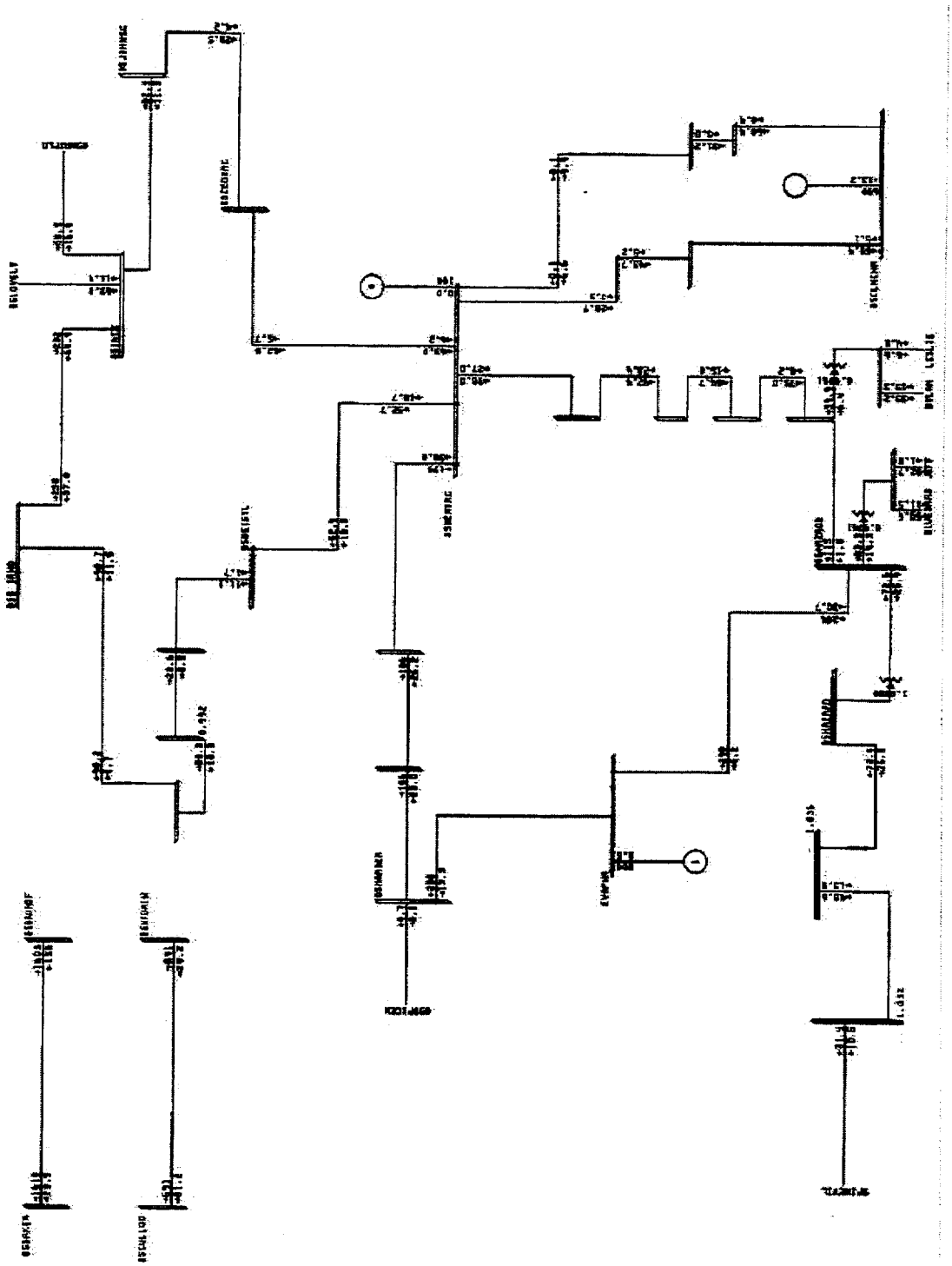


FIGURE 5.2

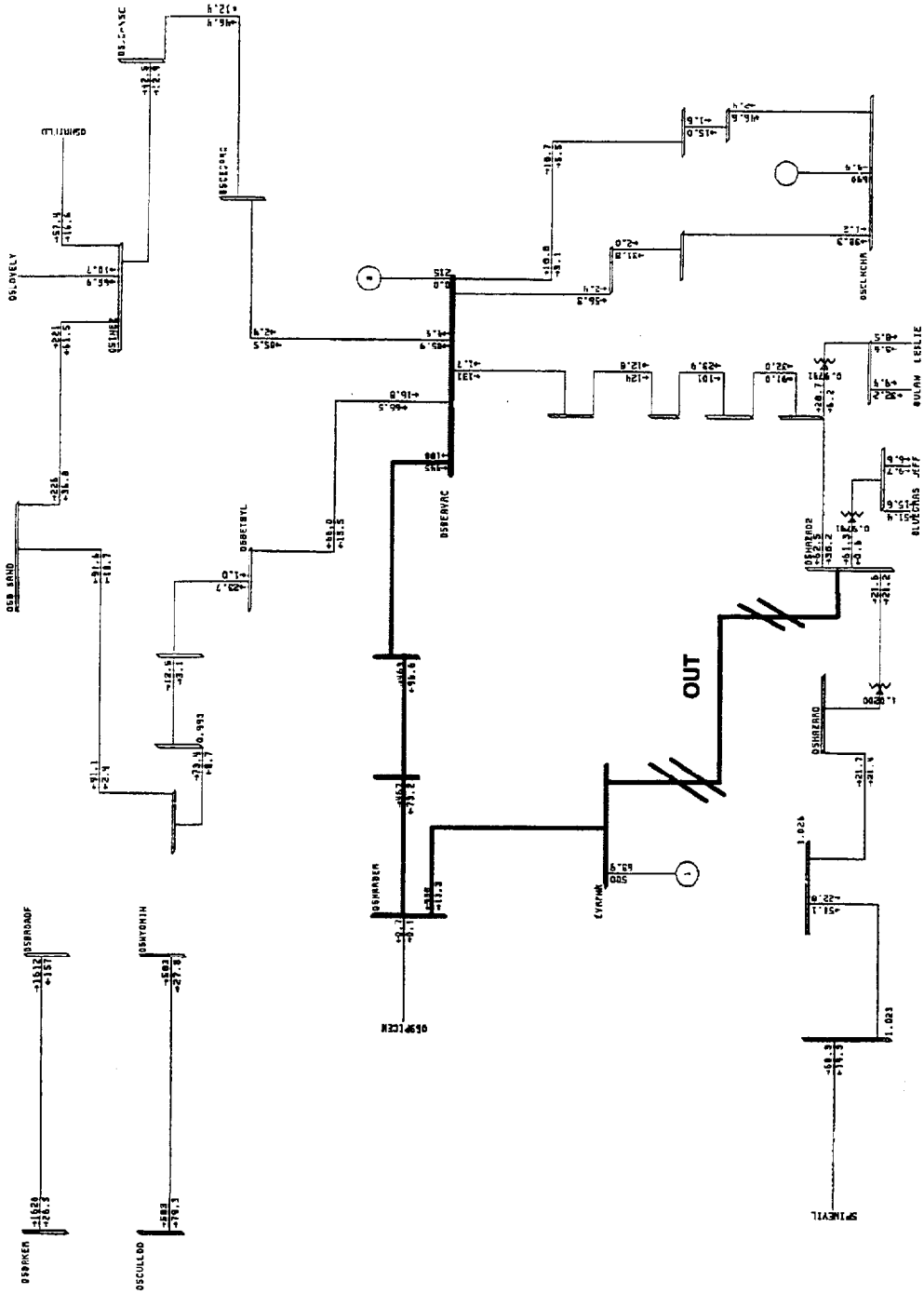


FIGURE 5.3

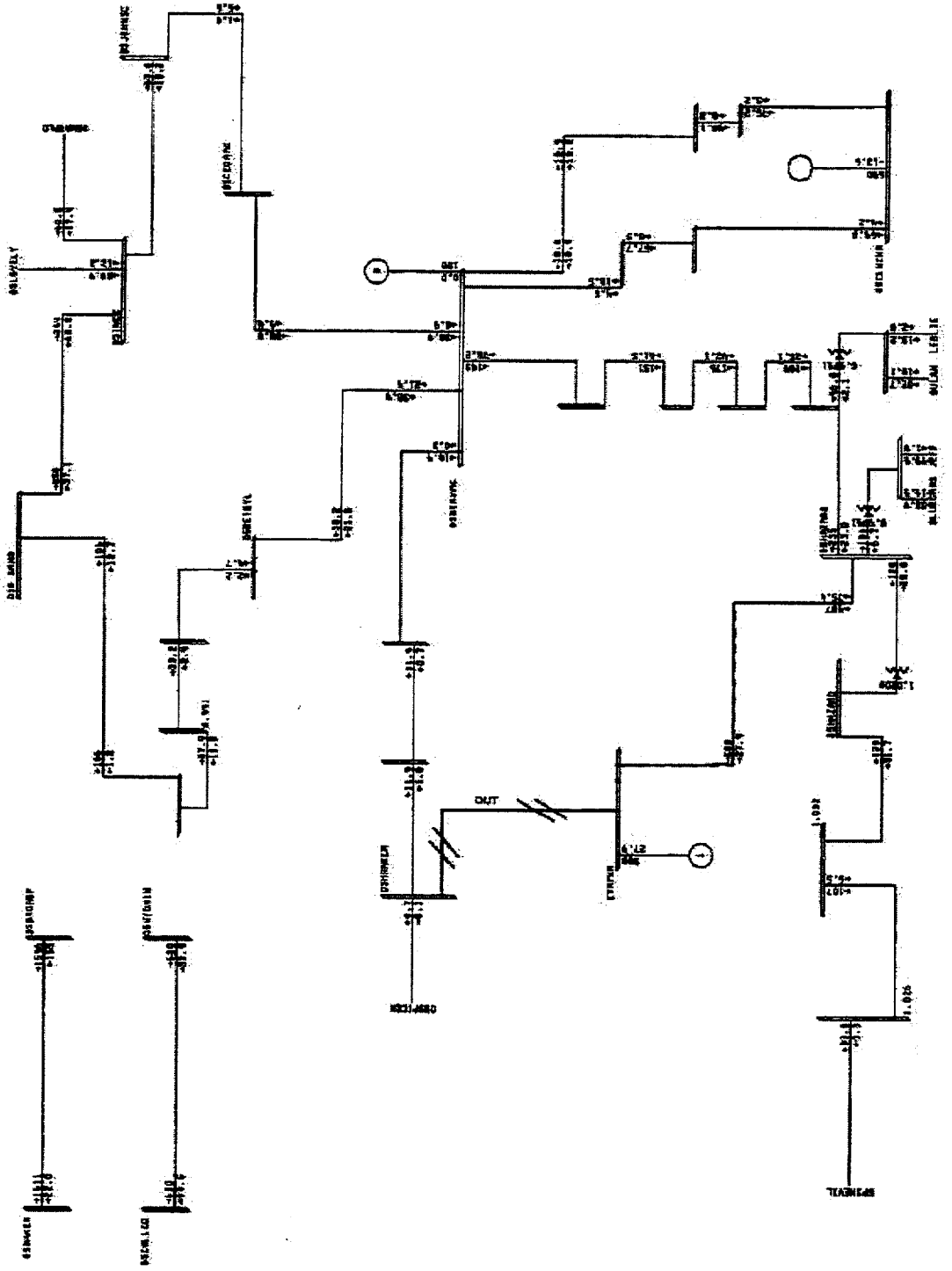
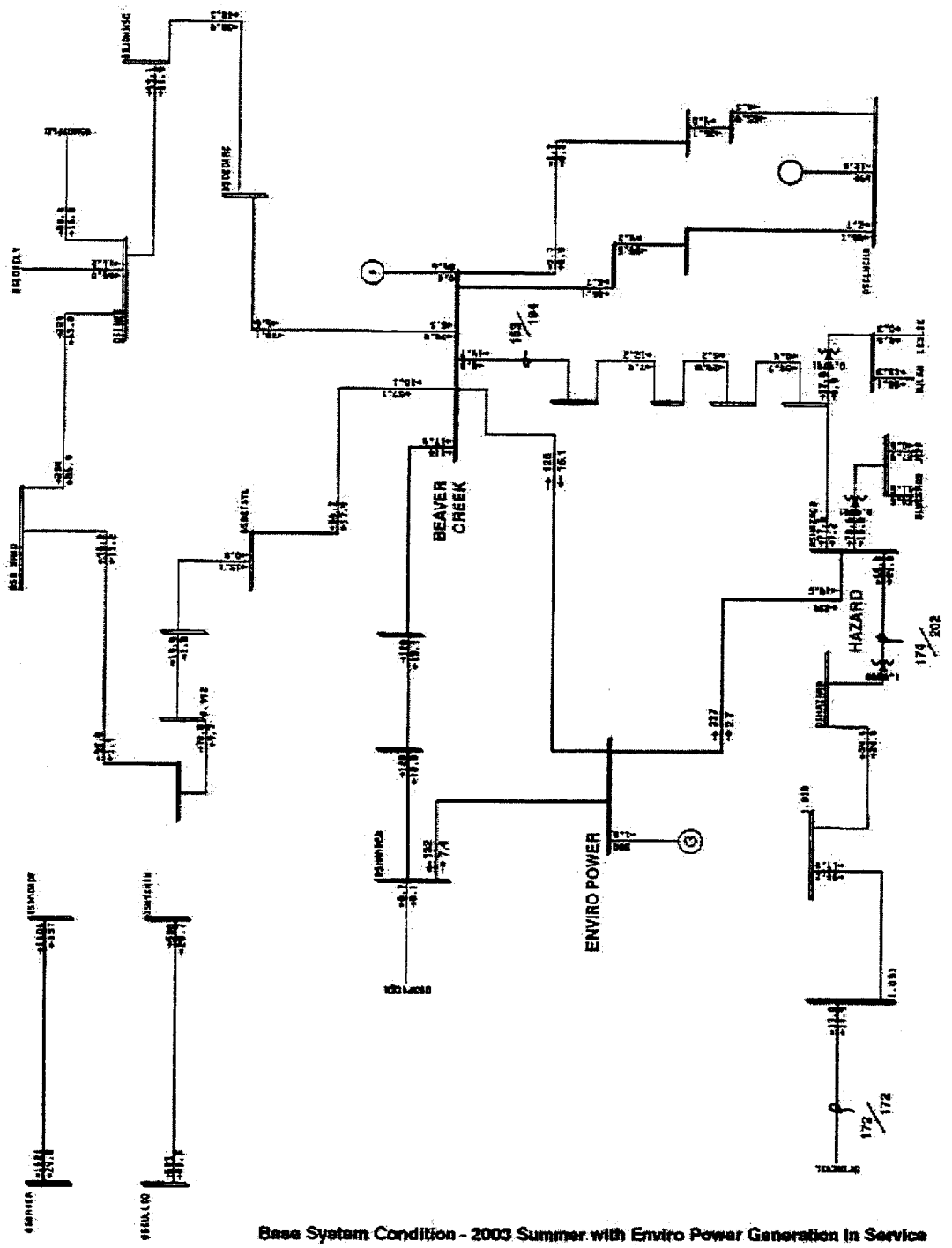
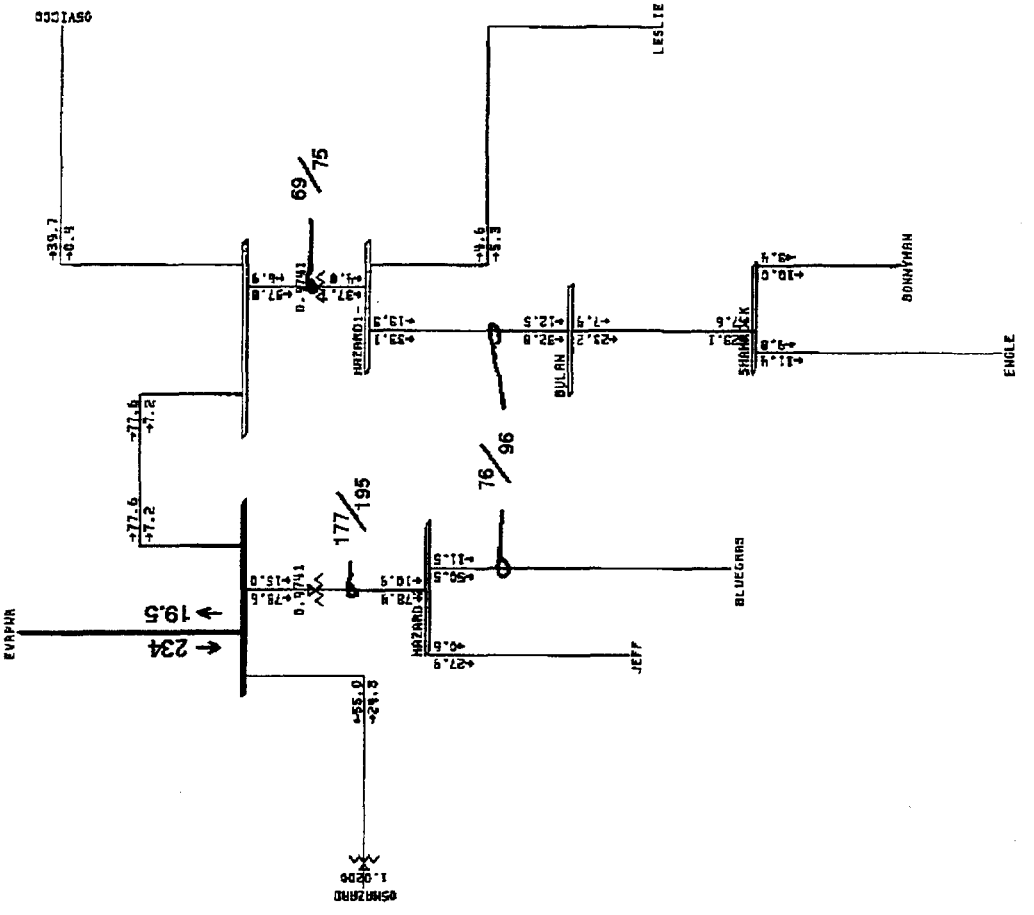


FIGURE 6.1



Base System Condition - 2003 Summer with Enviro Power Generation in Service

FIGURE 6.2



Base System Condition - 2003 Summer with Enviro Power Generation In Service

Table 1 (Existing System Condition - No Merchant Plant in Service)

	Beaver Ck.-Hazard 161 kV		Leslie-Pineville 161 kV		Beaver Ck-Spicewood 138 kV		Hazard 138/69 kV # 1		Hazard 138/69 kV # 2		Hazard-Blue Grass 69 kV		Hazard-Shamrock 69 kV	
Rating (SN/SE) in MVA	153 / 194		172 / 172		258 / 345		69 / 75		177 / 195		76 / 76		76 / 76	
System Condition	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal
Base Condition - All Facilities in Service	70	46%	137	80%	16	6%	27	39%	61	34%	53	70%	34	45%
Beaver Ck - Hazard 138 kV Out	0	0%	177	103%	16	6%	23	33%	42	24%	54	71%	23	30%
Leslie-Pineville 161 kV Out	187	122%	0	0%	16	6%	31	45%	54	31%	56	74%	21	28%
Hazard 138/69 kV # 1 Out	62	41%	134	78%	16	6%	0	0%	75	42%	23	30%	58	76%
Hazard 138/69 kV # 2 Out	68	44%	137	80%	16	6%	58	84%	0	0%	68	89%	10	13%
Baker-Broadford 765 kV Out	84	55%	123	72%	16	6%	27	39%	61	34%	53	70%	24	32%
Big Sandy-Inez 138 kV Out	53	35%	152	88%	16	6%	26	38%	61	34%	52	68%	24	32%
Clinch River Generation Out	53	35%	163	95%	16	6%	26	38%	64	36%	52	68%	25	33%

Table 2 (Enviro Power Merchant Plant in Service - System Configuration based on Figure 2)

System Condition	Envirpower - Beaver Ck. # 1 138 kV MVA	Envirpower - Beaver Ck. # 2 138 kV (via Herbert St.) MVA	Envirpower - Hazard. 138 kV MVA
Base Condition - All Facilities in Service	133	130	237
Envirpower - Beaver Ck. # 1 138 kV Out	0	202	298
Envirpower - Beaver Ck. # 2 138 kV Out	202	0	298
Envirpower - Hazard 138 kV Out	248	252	0

	Beaver Ck.-Hazard 161 kV		Leslie-Pineville 161 kV		Beaver Ck-Spicewood 138 kV		Hazard 138/69 kV # 1		Hazard 138/69 kV # 2		Hazard-Blue Grass 69 kV		Hazard-Shamrock 69 kV	
Rating (SN/SE) in MVA	153 / 194		172 / 172		258 / 345		69 / 75		177 / 195		76 / 76		76 / 76	
System Condition	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal
Base Condition - All Facilities in Service	15	10%	19	11%	116	45%	39	57%	80	45%	52	68%	25	33%
Beaver Ck - Hazard 138 kV Out	0	0%	17	10%	117	45%	38	55%	80	45%	52	68%	25	33%
Leslie-Pineville 161 kV Out	15	10%	0	0%	119	46%	38	55%	80	45%	51	67%	25	33%
Hazard 138/69 kV # 1 Out	17	11%	16	9%	117	45%	0	0%	102	58%	73	96%	6	8%
Hazard 138/69 kV # 2 Out	18	12%	19	11%	120	47%	77	112%	0	0%	20	26%	67	88%
Baker-Broadford 765 kV Out	15	10%	33	19%	111	43%	40	58%	81	46%	52	68%	52	68%
Big Sandy-Inez 138 kV Out	20	13%	18	10%	121	47%	37	54%	79	45%	52	68%	52	68%
Clinch River Generation Out	23	15%	27	16%	123	48%	38	55%	82	46%	51	67%	51	67%

American Electric Power
1 Riverside Plaza
Columbus, OH 43215 2373
614 223 1000
www.aep.com
Legal Department

June 29, 2001

AMERICAN ELECTRIC POWER

David P. Boergers
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Dear Secretary Boergers:

Kevin F. Duffy
Assistant General Counsel - Regulatory Services
(614) 223-1617
(614) 223-2950 (fax)

Enclosed herewith for filing are an original and six (6) copies of an Interconnection and Operation Agreement ("IA") between Kentucky Power Company ("the Company") and Kentucky Mountain Power, L.L.C. ("Generating Company"). The agreement provides for the interconnection to the American Electric Power transmission system of the EnviroPower Generating Station located in Hazard, Kentucky ("the Facility"). The Facility is expected to be placed into service in June, 2004.

Background.

The Company is an operating company of the American Electric Power ("AEP") System, an integrated public utility holding company system which, *inter alia*, provides transmission service pursuant to an open access transmission tariff (OATT) filed with this Commission. The OATT also includes procedures for the interconnection of generators to the AEP transmission system.[1] In accordance with the Commission's guidance provided in its order on the Southwest Power Pool's interconnection procedures,[2] this IA is being filed as a service agreement under the AEP OATT.

Generating Company is the developer of the Facility and is not affiliated with AEP.

The IA provides for establishment of an interconnection between the Facility and AEP's transmission system at 138 kilovolts. The IA also contains requirements for system operation, covers interconnection costs and billing, defaults and remedies, insurance, liability and indemnification,

[1] *See American Electric Power Service Corporation, ("AEPSC")* 91 FERC ¶ 61,308 (2000); Order on Rehearing, 94 FERC ¶ 61,166 (2001).

[2] *See Southwest Power Pool, Inc.,* 92 FERC ¶ 61,109 (2000)

dispute resolution, representations and warranties and general provisions. The IA was negotiated at arms length between the Company and Generating Company. Generating Company's assent to the terms and conditions of the IA is indicated by its execution of the document.

The IA supercedes a letter agreement between the parties which provided for the performance of certain pre-construction activities by the Company. The letter agreement was accepted for filing by letter order dated March 27, 2001 in Docket No. ER01-1172-000.

Cost Information:

The following information is submitted in support of the cost and cost responsibility under the IA:[3]

1. Description of the Facility. The Facility will be in Hazard, Kentucky and will have a net capability of approximately 500 megawatts.

2. Facility Ownership. The Facility will be owned by Kentucky Mountain Power, L.L.C.

3. One-Line Diagram. A One-Line diagram of the Facility and the surrounding system facilities is included in Appendix A to the IA.

4. Direct Assignment of Costs. The costs that are to be directly assigned to the Generating Company consist of the facilities necessary to physically and electrically interconnect the generating facility to the Transmission System and System Upgrades necessary to remove overloads resulting from the connection of the Facility to the network. Such facilities are included in the definition of direct assignment facilities accepted by the Commission in *AEPSC, supra.* The Direct Assignment Facilities are set forth on Appendix A to the IA.

   The Agreement provides that Generating Company shall be eligible for a credit for transmission service in an amount equal to the costs borne by Generating Company for system upgrades necessary to remove overloads. The crediting

[3] *See Entergy Services Inc.*, 91 FERC ¶ 61,149 (2000).

provision is subject to changes ordered by the Commission in *AEPSC, supra.*

5. Identification of Direct Costs, Indirect Costs and Carrying Charges. The estimated project costs are set forth on Appendix E to the IA. Under the IA, Generating Company is responsible for actual costs, but must approve any change in the scope of the work which would increase the cost by 10% or more. Attached as Exhibit 1 to this filing is an identification of the direct costs, indirect costs and carrying charges.

6. Facilities With Similar Characteristics and Costs. No comparable data is available. The most recent integration of generation on the AEP System was in the mid 1980's on the EHV network. Such costs would not be comparable to the project. Further, each project is unique with respect to required facilities and configuration.

7. Cost Support for Services. The only service to be provided by the Company and charged to Generating Company under the IA, beyond construction of the necessary facilities, is the performance of operation and maintenance on the Company Interconnection Facilities. The cost of this service will be governed by a formula set forth in Appendix G to the IA, which the Commission has accepted on numerous occasions for similar services.[4]

Effective Date:

AEP requests an effective date of August 31, 2001. AEP also requests waiver of any filing requirements with which this filing does not comply.

Service, Notices and Correspondence:

Copies of this filing have been served upon the Kentucky Public Service Commission. Any correspondence regarding this matter should be directed to:

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[4] *See, e.g.,* Letter Order, May 18, 2000 in Docket No. ER00-2232-000; Letter Order February 17, 2000 in Docket No. ER00-1131-000.

Kevin F. Duffy
Assistant General Counsel – Regulatory Services
American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43215

Dennis W. Bethel
American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43215

In addition, AEP requests that the Commission provide that copies of correspondence also be sent to representatives of Generating Company, as follows:

Director Project Management
Kentucky Mountain Power, LLC
2810 Lexington Financial Center
250 West Main Street
Lexington, Kentucky 40507

Arthur Thomas
Kentucky Mountain Power, LLC
2810 Lexington Financial Center
250 West Main Street
Lexington, Kentucky 40507

Peter Brown
EnviroPower, LLC
2810 Lexington Financial Center
250 West Main Street
Lexington, Kentucky 40507

List of Documents Submitted:

Submitted with this filing are the following documents, which are submitted in hard copy and electronic form:

1. This letter of transmittal;

2. Interconnection and Operation Agreement between Kentucky Power Company and Kentucky Mountain Power, L.L.C. (First Revised Service Agreement No. 312, Supercedes Original Service Agreement No. 312 under AEP's OATT);

3. Exhibit 1 – Cost Breakdown; and

4. A form of Notice for publication in the *Federal Register*.

Respectfully submitted,

Kevin F. Duffy

KFD:bas
Enclosures

Cost Description		Interconnection Facilities			System Upgrades		
		Bill Amount $ (000)	Bill Amount % of Total	Average Loading Rate	Bill Amount $ (000)	Bill Amount % of Total	Average Loading Rate
1. Materials (M)							
(a) Stores Material (SDM)		**$2,947**	**20%**		**$781**	**33%**	
(b) Stores Expenses (SE)		**$300**	**2%**		**$70**	**3%**	
	Total Materials	**$3,247**	**22%**		**$851**	**36%**	
II. Labor (L)							
(a) Direct Charges (DL)		**$7,859**	**52%**		**$1,017**	**43%**	
(b) Fringe Exp.(FL)		**$352**	**2%**		**$91**	**4%**	
	Total Labor	**$8,211**	**55%**		**$1,108**	**47%**	
III. Transportation (E)		**$219**	**1%**		**$45**	**2%**	
IV. Subtotal I, II, III		**$11,677**	**78%**		**$2,004**	**85%**	
V. Engr. and Administrative (O)							
(a) Company Const. (IE)		**$2,352**	**16%**		**$159**	**7%**	
(b) AEP Engr. (AE)		**$994**	**7%**		**$187**	**8%**	
	Total Engr. & Adm.	**$3,346**	**22%**		**$346**	**15%**	
VI. Subtotal I, II, III and IV		**$15,023**	**100%**		**$2,350**	**100%**	
VII. AFUDC		**$0**	**0%**		**$0**	**0%**	
	Total I, II, III, V and VII	**$15,023**	**100%**		**$2,350**	**100%**	

Interconnection and Operation Agreement

Between

Kentucky Power Company

And

Kentucky Mountain Power, L.L.C.

INTERCONNECTION AND OPERATION AGREEMENT

between

Kentucky Power Company

and

Kentucky Mountain Power, LLC

TABLE OF CONTENTS

ARTICLE 1. DEFINITIONS

ARTICLE 2. TERM

ARTICLE 3. FACILITY INTERCONNECTION

ARTICLE 4. SYSTEM OPERATION

ARTICLE 12. REPRESENTATIONS AND WARRANTIES

ARTICLE 13. MISCELLANEOUS PROVISIONS

APPENDICES

INTERCONNECTION AND OPERATION AGREEMENT

THIS AGREEMENT, made this ____ day of May, 2001, by and between Kentucky Power Company ("Company") d/b/a American Electric Power, a wholly-owned subsidiary of American Electric Power Company, Inc. ("AEP"), and Kentucky Mountain Power, LLC ("Generating Company"), collectively referred to as the "Parties" or singularly as a "Party".

WITNESSETH:

WHEREAS, Company owns and operates electric facilities and is engaged, among other things, in the transmission of electric power and energy in the Commonwealth of Kentucky, and, as a part of AEP, offers open access transmission service over the integrated Company Transmission System; and

WHEREAS, Generating Company will own and operate the EnviroPower Generating Station located in Hazard, Kentucky, for the generation of electric power (the "Facility"); and

WHEREAS, Generating Company has requested an interconnection agreement with Company to accomplish the interconnection of the Facility to the Company Transmission System at 138 kilovolts; and

WHEREAS, Company owns transmission facilities in Kentucky, some of which are located near the Facility Site, and Company is willing to interconnect the Company Transmission System with the Facility under the terms and conditions contained herein.

NOW, THEREFORE, for and in consideration of the promises and mutual covenants herein set forth the Parties hereto agree as follows:

ARTICLE 1. DEFINITIONS

Whenever used in this Agreement, the following terms shall have the following meanings:

1.1 "Abnormal Condition" means any condition at the Facility or on the Company System or the transmission system of other utilities that is outside normal operating parameters such that facilities are operating outside their normal ratings or reasonable operating limits have been exceeded but which has not resulted in an Emergency. An Abnormal Condition may include, but is not limited to, high or low deviations in: voltage, frequency, power flow, equipment temperature, equipment pressures, and other equipment and operating parameters.

1.2 "AEP Operating Companies" shall mean Appalachian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, all of which are now doing business as AEP.

1.3 "Affected Systems" means transmission systems that are directly or indirectly interconnected with the Company Transmission System and that, due to the interconnected nature of electric power systems, are affected by Facility operations.

1.4 "Affiliate" shall mean, with respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership or other entity.

1.5 "Agreement" shall mean this Interconnection and Operation Agreement between Company and Generating Company, including all appendices, attachments and any amendments thereto.

1.6 "Applicable Laws and Regulations" shall mean all applicable federal, state and local laws, ordinances, rules and regulations, and all duly promulgated orders and other duly authorized actions of any Governmental Authority having jurisdiction over the Parties and/or their respective facilities.

1.7 "Business Day" shall mean any day other than a Saturday, Sunday, or other day on which commercial banks in Ohio are authorized or required by law to be closed.

1.8 "Commercial Operation Date" shall mean the date specified by the mutual agreement of the Parties as the date that delivery of Electricity to the Interconnection shall commence for purposes other than testing and shall be the date set forth in Appendix F.

1.9 "Company Interconnection Facilities" shall mean all equipment and other facilities which are part of the Interconnection Facilities, including any modifications, additions, or upgrades made to such facilities, and which Company owns, operates and maintains, as such are so designated and described in Appendix A.

1.10 "Company System" shall mean the integrated system of electrical generation, transmission and distribution facilities, and all equipment and facilities ancillary thereto, owned and/or operated by Company as a part of the AEP system.

1.11 "Company Transmission System" shall mean the integrated system of electrical transmission facilities, and all equipment and facilities ancillary thereto, owned and/or operated by Company as a part of the AEP transmission system.

1.12 "Control Area" shall mean an electric system capable of regulating its generation in order to maintain and control its electric energy interchange schedule with other electric systems, contribute its frequency bias obligation to the interconnected system, and meet the generation operating reserve requirements set forth by ECAR, or any successor.

1.13 "Direct Assignment Facilities" shall mean: (a) the facilities necessary to physically and electrically interconnect the generating facility to the Company Transmission System and (b) the minimum necessary local and network upgrades that would not have been incurred but for such Generation Interconnection Requests, including (i) system upgrades necessary to remove overloads and to address voltage constraints and (ii) system upgrades necessary to remedy short-circuit or stability problems resulting from the connection of the generating facility to the network. All such facilities are described in Appendix A.

1.14 "ECAR" shall mean the East Central Area Reliability Council, one of the regional reliability councils of NERC formed to promote reliability and adequacy of bulk power supply of the electric utility systems in North America, or any successor thereto.

1.15 "ECAR Criteria" shall mean those policies or standards promulgated by ECAR, as in effect from time to time, relating to practices to be followed in the planning and operation of the interconnected systems of the member utilities of ECAR.

1.16 "Electricity" shall mean the capacity or energy produced by the Facility.

1.17 "Emergency" shall mean any circumstance or combination of circumstances or any condition on the Facility, the Interconnection Facilities, the Company System or the transmission system of other utilities which is likely to result in imminent disruption of service to consumers or is likely to endanger life or property necessitating immediate action to avert serious injury to persons or property, or impairment or degradation of transmission system reliability.

1.18 "Environmental Laws" shall mean all federal, state, and local laws (including common laws), regulations, rules, ordinances, codes, decrees, judgements, binding directives, or judicial or administrative orders relating to the protection, preservation or restoration of human health, the environment, or natural resources, including, without limitation, laws relating to the releases or threatened releases of Hazardous Substances into any media (including without limitation, ambient air, surface water, groundwater, land, surface and subsurface strata) or otherwise relating to the manufacture, processing, distribution, use treatment, storage, release, transport, and handling of Hazardous Substances.

1.19 "Event of Default" has the meaning set forth in Section 6.1.

1.20 "Facility" shall mean the generation facilities rated at approximately 500 MW (net) summer, and 500 MW (net) winter, to be constructed by Generating Company on the Facility Site, and which are planned for commercial operation on or about June 1, 2004.

1.21 "Facility Site" shall mean the tract of land located in Knott County, Kentucky upon which the Facility is to be constructed, and which is more fully described in Appendix B.

1.22 "FERC" shall mean the Federal Energy Regulatory Commission, or any successor thereto.

1.23 "Force Majeure" shall mean any cause beyond the reasonable control of and without the fault or negligence of the Party claiming Force Majeure, including but not limited to acts of God, strike (including that by vendor personnel), flood, earthquake, storm, fire, lightning, epidemic, war, riot, civil disturbance, sabotage, and, except as otherwise addressed by Section 13.17, action or inaction by any Governmental Authority which, in any of the foregoing cases, by exercise of due foresight such Party could not reasonably have been expected to avoid, and which, by the exercise of due diligence, it is unable to overcome.

1.24 "Generating Company Interconnection Facilities" shall mean all equipment and other facilities which are part of the Interconnection Facilities, including any modifications, additions, or upgrades made to such facilities, and which Generating Company owns, operates and maintains, as such are so designated and described in Appendix A.

1.25 "Good Utility Practice(s)" shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region. Good Utility Practice shall include, but not be limited to, compliance with Applicable Laws and Regulations, the criteria, rules, and standards promulgated by NERC and by ECAR, the National Electric Safety Code, and the National Electrical Code, as they may be amended from time to time, including the criteria, rules and standards of any successor organizations.

1.26 "Governmental Authority" shall mean any federal, state, local or municipal governmental body; any governmental, regulatory or administrative agency, commission, body or other authority exercising or entitled to exercise any administrative, executive, judicial, legislative, policy, regulatory or taxing authority or power; or any court or governmental tribunal.

1.27 "Hazardous Substances" shall mean:

(a) any petro-chemical or petroleum products, oil or coal ash, radioactive materials, radon gas, asbestos in any form that is or could become friable, urea formaldehyde foam insulation

and transformers or other equipment that contain dielectric fluid which may contain levels of polychlorinated biphenyls;

(b) any chemicals, materials, or substances commonly defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "contaminants," or "pollutants," or words of similar meaning and regulatory effect; or

(c) any other chemical, material, or substance, exposure to which is prohibited, limited or regulated by applicable Environmental Laws.

1.28 "Interconnection" shall have the meaning set forth in Section 3.1.

1.29 "Interconnection Facilities" shall mean all equipment and facilities that are necessary or desirable under Good Utility Practice to safely and reliably interconnect the Facility to the Company System, including all connection, switching, Metering Equipment, transmission, distribution, safety, engineering, communication and Protective Equipment. Interconnection Facilities shall include the Company Interconnection Facilities and the Generating Company Interconnection Facilities collectively, which are more particularly described in Appendix A.

1.30 "Interconnection Point" shall mean the point, shown in Appendix A, where the Facility is interconnected with the Company System.

1.31 "Metering Equipment" shall mean those facilities specified in Appendix C.

1.32 "NERC" shall mean the North American Electric Reliability Council, including any successor thereto or any regional reliability council thereof.

1.33 "Open Access Transmission Tariff" or "OATT" shall mean the Open Access Transmission Tariff under which Company offers non-discriminatory open access transmission service over the Company Transmission System, as filed with the FERC, and as amended or supplemented from time to time, or any successor tariff.

1.34 "Operating Authority" shall mean the AEP System Control Center, the RTO, and any successor organizations.

1.35 "Party" shall mean a party to this Agreement named in the preamble above, its successors, or any permitted assignees.

1.36 "Person" shall mean any individual, Governmental Authority, corporation, limited liability company, partnership, limited partnership, trust, association or other entity.

1.37 "Project Financing" shall mean (a) one or more loans and/or debt issues, together with all modifications, renewals, supplements, substitutions and replacements thereof, the proceeds of which are used to finance or refinance the costs of the Facility, any alteration, expansion or improvement to the Facility, the purchase and sale of the Facility or the operations at the Facility or

(b) a power purchase agreement pursuant to which Generating Company's obligations are secured by a mortgage or other lien on the Facility.

1.38 "Project Finance Holder" shall mean (a) any holder, trustee or agent for holders, of any component of the Project Financing or (b) any purchaser of power from the Facility to which Generating Company has granted a mortgage or other lien as security for some or all of Generating Company's obligations under the corresponding power purchase agreement.

1.39 "Protective Equipment" shall mean such protective relay systems, locks and seals, breakers, automatic synchronizers, associated communication equipment and other control schemes and protective apparatus as is reasonably necessary under Good Utility Practice, as approved by Company for the operation of the Facility in parallel with the Company Transmission System and to permit Company's facilities to operate economically, reliably and safely in their normal manner.

1.40 "RTO" shall mean the Alliance Regional Transmission Organization, or any successor or other FERC-approved regional transmission organization to which Company may transfer operational control of its transmission facilities, or a portion thereof.

1.41 "System Impact and Facility Studies" shall mean any studies conducted by the Company to investigate the impact of the Facility addition on the Company Transmission System and neighboring utilities and also to determine the design, specifications, and cost estimate for the Company Interconnection Facilities and System Upgrades necessitated to accommodate the interconnection of the Facility.

1.42 "System Upgrades" shall mean the minimum necessary local and network upgrades that would not have been required but for the Interconnection of the Facility to the Company Transmission System, including (i) system upgrades necessary to remove overloads and to address voltage constraints and (ii) system upgrades necessary to remedy short-circuit or stability problems resulting from the connection of the generating facility to the network, as such facilities are so designated and described in Appendix A.

ARTICLE 2. TERM AND TERMINATION OF AGREEMENT

2.1 Term

This Agreement shall become effective as of the date first above written or such other date as shall be specified by the FERC. This Agreement shall continue in force and effect for a period of thirty (30) years from the date this Agreement is made effective, or until retirement of the Facility, whichever is shorter. Notwithstanding the above, this Agreement may be terminated earlier if earlier termination is permitted under this Agreement or mutually agreed to by the Parties. Any termination hereunder shall not take effect until the FERC either authorizes any request by a Party seeking termination of this Agreement in accordance with its terms or accepts a written notice of termination.

2.2 Effect of Expiration or Termination of Agreement on Liabilities and Obligations

Expiration or termination of this Agreement shall not relieve Generating Company or Company of any liabilities or obligations arising hereunder prior to the date expiration or termination becomes effective. The applicable provisions of this Agreement will continue in effect after expiration, cancellation, or early termination hereof to the extent necessary to provide for final billings, billing adjustments, and the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this Agreement was in effect.

2.3 Regulatory Approvals

Generating Company agrees that it shall use its best efforts to obtain in a timely manner any federal, state, or other regulatory consents, approvals, certifications, filings or orders that may be required for Generating Company's execution, delivery or performance of this Agreement and any amendments hereto that have been executed by both Parties.

Company agrees that it shall use its best efforts to obtain in a timely manner any federal, state, or other regulatory consents, approvals, certifications, filings or orders that may be required for Company's execution, delivery or performance of this Agreement and any amendments hereto that have been executed by both Parties.

Company shall file this Agreement with the FERC. Generating Company agrees to assist Company and use all reasonable efforts in obtaining such approvals or making such filings as promptly as practicable.

Each Party shall use its best efforts to obtain all necessary regulatory approvals and acceptances of this Agreement. Each Party shall support the Agreement before the FERC and any other regulatory agency having jurisdiction, and shall not protest or contest the Agreement or any part of it before any such agency.

Pursuant to Section 13.2, all amendments to this Agreement must be by written instrument and duly executed by each of the Parties. Promptly upon execution of any amendment to this Agreement, the Company shall, if necessary, file such amendment with the FERC. Each Party shall support an executed amendment before the FERC and any other regulatory agency having jurisdiction, and shall not protest or contest the filing of the duly executed amendment or any part of it before any such agency.

ARTICLE 3. FACILITY INTERCONNECTION

3.1 Establishment of Interconnection

This Agreement provides for the interconnection of the Facility to the Company Transmission System and the provision of such service as is necessary to ensure the delivery of the Electricity to the Interconnection Point and its acceptance into the Company Transmission System and to physically enable the Facility to receive any energy and capacity necessary to satisfy its operational requirements. The Parties agree that the Facility to be constructed by the Generating

Company shall be interconnected to the Company Transmission System at Beaver Creek, Hazard, and Harbert Stations, such interconnection being further described in Appendix A, and herein referred to as the "Interconnection". Appendix A may be revised by written mutual agreement of the Parties. Pursuant to this Agreement, the Parties shall, during the term of this Agreement, continue in service the existing transmission lines and essential terminal equipment, to the extent required to establish and maintain a reliable Interconnection.

3.2 Conditions of Interconnection

(a) Generating Company agrees that it will not interconnect or operate any part of its system connected to Company Transmission System in synchronization with any other electric system without coordinating with and the approval of Company, such approval not to be unreasonably withheld, whether such other electric system is supplied with Electricity by Generating Company, a third party, or from another point of connection with Company System, provided that nothing herein precludes coordination of Facility operations with those of a control area other than the Company's control area for purposes of dynamic scheduling of the Facility with such other control area or a second interconnection directly with a second transmission provider. However, a second interconnection would require a joint system study, between AEP and the other utility. Generating Company will be responsible for all expenses associated with such a study and will also be responsible for all expenses related to system upgrades, if required. This Agreement provides only for interconnection of the Facility with the Company Transmission System. Nothing in this Agreement shall be read as a request by Generating Company or a commitment by Company to install any facilities other than those necessary to interconnect the Facility with Company Transmission System and ensure the acceptance of the Facility's Electricity into the Company Transmission System, at the point of interconnection.

(b) Generating Company acknowledges and agrees that from time to time during the term of this Agreement other Persons may develop, construct and operate or acquire and operate generation facilities in Company's service territory, and construction or acquisition and operation of any such facilities, and reservations by any such other Persons of transmission service under the OATT may affect the availability of transmission service for the Facility's net electric output. Generating Company acknowledges and agrees that Company has no obligation to disclose to Generating Company any information with respect to such Persons or the facilities, including the identity or existence of any such Person or other facilities except as provided for in the OATT, or unless the Company's response to such Person's activities could reasonably be expected to have an adverse impact on the operation of the Facility or the Interconnection Facilities in which case Company shall disclose only such information as is agreed to by such person or is necessary to address such adverse impact on the Facility or the Interconnection Facilities, and that the Company makes no guarantees with respect to transmission service that is available under the OATT.

(c) This Agreement does not obligate either Party to provide, or entitle either Party to receive, any transmission or other service not expressly provided for herein. Each Party is responsible for making the arrangements necessary for it to receive any other service that it may desire from the other Party or any third party. Any transmission or ancillary service obtained from the Company necessary to transmit power or Electricity from the Facility shall be governed by the provisions of the OATT. Notwithstanding any other provision of this Agreement, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm

transmission rights, capacity rights, or transmission credits, that the Generating Company, or one or more of its customers, may be entitled to, now or in the future, as a result of, or otherwise associated with, the transmission capacity, if any, created by the System Upgrades. In the event that Generating Company, or one or more of its customers, requests and purchases transmission service from the Company to transmit Electricity from the Facility, credits or other adjustments, as provided for in Section 3.7(f) may be appropriate in light of the charges paid by Generating Company under this Agreement. Any such transmission credits, including the credit described in Section 3.7(f) of this filing, will be provided to the Generating Company and not to its customers.

(d) Generating Company shall install, at its own expense, the necessary equipment, such as power system stabilizers on its generators, to provide satisfactory stability performance under all credible system conditions as may be necessary in accordance with Good Utility Practice.

(e) This Agreement does not provide for the sale or purchase of power or energy from Generating Company's Facility. Construction, backup and startup power at the Facility Site will be provided by the appropriate supplier under the appropriate tariff(s).

3.3 Interconnection Design, Operation And Maintenance

(a) The Parties agree to cause their respective Interconnection Facilities to be constructed in accordance with specifications at least equal to those provided by the National Electric Safety Code and approved by the American National Standards Institute. The Parties agree to comply with service quality, reliability and power quality standards included in the IEEE Standard 519, and other industry standards addressing such issues. The Parties further agree that their respective Interconnection Facilities shall be designed, constructed and installed in accordance with Good Utility Practice.

(b) In accordance with Section 3.7, each Party shall, at Generating Company's expense, operate, maintain, repair, and inspect its respective Interconnection Facilities that it now or hereafter may own or control unless otherwise specified in this Agreement. Maintenance by either Party that will cause a deviation from normal power and Energy flow at the Interconnection Point will be scheduled at a mutually agreed time. No changes will be made in the normal operation of the Interconnection Point without the mutual agreement of the Parties except as otherwise provided herein or in the OATT. The Parties will coordinate the construction, operation and maintenance of their Protective Equipment.

3.4 Generating Company Facility and Interconnection Facilities

Unless otherwise agreed and except as provided in Section 3.6 (a), Generating Company shall be responsible for the design, construction, installation, ownership, operation and maintenance of the Facility and Generating Company Interconnection Facilities described in Appendix A, Paragraphs 8 and 9. After installation, Company will have operational control of and will maintain the in-line facilities in Generating Company's station(s), if any, and charge Generating Company for such maintenance under the FERC approved formula, shown in Appendix G. Generating Company Interconnection Facilities located in Company's substation, if any, must be designed, engineered, installed, tested and commissioned per Company's specifications. Protective Equipment to be installed by Generating Company shall be set forth in Appendix D.

3.5 Company Interconnection Facilities and System Upgrades

(a) Company shall be responsible for the design, procurement, construction, installation, ownership, operation and maintenance of all the Company Interconnection Facilities and System Upgrades described in Appendix A, Paragraph 10. Company shall also be responsible for the ownership, operation and maintenance of certain Generating Company Interconnection Facilities, described in Appendix A, Paragraph 9, that will be constructed by Generating Company pursuant to Section 3.6 (b). Protective Equipment to be installed, owned, and operated by Company is set forth in Appendix D. The Company shall also be responsible for the ownership, operation and maintenance of certain Generating Company Interconnection Facilities, described in Appendix A, Paragraph 9, that will be constructed by the Generating Company, pursuant to Section 3.6 (b). The estimated cost of the Company Interconnection Facilities and the Company's Protective Equipment are set forth in Appendix E. The contemplated schedule for the Company's performance of its obligations hereunder is set forth in Appendix F.

(b) The Company Interconnection Facilities shall not be used for any purpose which conflicts with the operation of the Facility.

3.6 Installation of Generating Company Interconnection Facilities

(a) The Generating Company Interconnection Facilities, described in Appendix A, Paragraphs 8 and 9, will be constructed by Generating Company or, at Generating Company's option, a third party contractor to be selected by Generating Company. Notwithstanding the foregoing, Generating Company understands and agrees that Company shall complete the connection of the Company and Generating Company Interconnection Facilities and will manage all construction work relating to the Generating Company Interconnection Facilities that are directly interconnected with the Company Transmission System.

(b) With respect to the Talcum 138 kV switching station ("Talcum Station") and the three 138 kV line exits identified in Appendix A, Paragraph 9 as a Generating Company Interconnection Facility, the Parties agree as follows:

i. Talcum Station shall be constructed at a location on the Facility Site selected by Generating Company and acceptable to Company, such acceptance not to be unreasonably withheld;

ii. Generating Company shall enter into an Engineering, Procurement and Construction Contract (the "EPC Contract") with a general contractor selected by Generating Company for the engineering, procurement and construction of Talcum Station and the three 138 kV line exits. Such contract shall require such EPC activities to be performed in accordance with technical specifications, which will be provided by Company to Generating Company. Company shall have the right, at Generating Company's expense, to audit and/or inspect such EPC activities to the extent necessary to assure that Company's technical specifications are met;

iii. Company shall design, install and own 138 kV metering for the Facility, all line potential and carrier relaying equipment for the three (3) 138 kV line exits, as well as panels, data acquisition and fault recording equipment inside the Talcum Station control house provided by the Generating Company. Generating Company shall design and install all other equipment including circuit breakers, control house, steel structures etc. in accordance with technical specifications, which will be provided by Company to Generating Company.

iv. Upon the issuance of the notice of substantial completion, or such similar notice, pursuant to the EPC Contract, Company shall be entitled to inspect Talcum Station and the three 138 kV line exits with Generating Company in accordance with Section 3.10 of this Agreement and to confirm that Talcum Station and the three 138 kV line exits have been constructed in accordance with specifications set forth in the EPC Contract, such confirmation not to be unreasonably withheld or delayed;

v. Upon issuance of the confirmation by Company as provided for in Section 3.6(b)(iii), and at no cost to Company, Generating Company shall promptly convey by deed, grant an easement, or lease to Company that portion of the Facility site on which Talcum Station is located and ownership of the Talcum Station, subject to the access rights set forth in Section 3.12; ownership of the facilities that comprise Talcum Station and the three 138 kV line exits (portions of the lines constructed between Talcum Station and Beaver Creek, Harbert, and Hazrad stations) shall pass on the effective date of the deed, easement, or lease, and no other action by the Parties shall be necessary to transfer ownership of the facilities that comprise Talcum Station;

vi. Upon issuance of the confirmation by Company as provided for in Section 3.6(b)(iv), and at no cost to Company, Generating Company shall promptly convey by deed, grant an easement, or lease to Company the ownership of the three Talcum 138 kV line exits, subject to the access rights set forth in Section 3.12; ownership of the three 138 kV line exits shall pass on the effective date of the deed, easement, or lease, and no other action by the Parties shall be necessary to transfer ownership of the Talcum 138 kV line exits;

vii. The "Defined Event" shall be the first closing of the switch (or switches) that causes energy from the Company Transmission System to flow over any part of Talcum Station; in no event shall the Defined Event occur prior to the transfer of ownership of Talcum Station and the Talcum 138 kV line exits from Generating Company to Company;

viii. Company shall be a named third-party beneficiary of the EPC Contract for purposes of all warranties made by the general contractor in the EPC Contract; Generating Company makes no representation or warranties, express or implied, regarding Talcum Station and the Talcum 138 kV line exits, and expressly disclaims any and all warranties, express or implied, regarding Talcum Station and the Talcum 138 kV line exits; and

ix. in the event Federal or state income taxes are imposed upon Company with respect to the transfer of the ownership of Talcum Station and the Talcum 138 kV line exits, Generating Company agrees to reimburse Company for the effect of such taxes, including any appropriate gross up for income tax and any penalty.

(c) Upon the transfer of the ownership of Talcum Station and the Talcum 138 kV line exits, for purposes of this Agreement, (i) Talcum Station shall cease to be a Generating Company Interconnection Facility and shall become a Company Interconnection Facility and (ii) Generating Company shall be responsible for the costs of operation, maintenance and repair/replacement of Talcum Station and the Talcum 138 kV line exits in accordance with Section 3.7. Generating Company shall be responsible for the tax consequences, if any, of such transfer in accordance with Section 5.2. Upon the transfer of the ownership of the Talcum Station and the Talcum 138 kV line exits, the Interconnection Point shall be defined as the disconnect switches where the 138 kV lines from the Facility terminate in Talcum Station.

3.7 Installation of Company Interconnection Facilities and System Upgrades

(a) Company shall design, construct, own, operate, maintain and repair or replace Company Interconnection Facilities as specified in Paragraph 10 in Appendix A. Generating Company shall pay Company a contribution to capital covering the full cost of installing Company Interconnection Facilities, including any tax consequences as provided in Section 5.2, resulting from the contribution to capital, required as a result of the connection of Generating Company's Facility to Company Transmission System. After installation, Company will maintain and repair/replace Company Interconnection Facilities and charge Generating Company for such maintenance and repair/replacement under the FERC-approved formula, shown in Appendix G. Company estimates that normal maintenance charges for Company's Interconnection Facilities will be approximately $ 32,000 (based on 2001$) on an annual average basis.

(b) Company shall design, construct, own, operate, maintain and repair or replace System Upgrades as specified in Paragraph 10 in Appendix A. Generating Company shall pay Company a contribution to capital covering the full cost of any System Upgrades, including any tax consequences as provided in Section 5.2, resulting from the contribution to capital, required as a result of the connection of Generating Company's Facility to Company Transmission System. After installation, Company will maintain and repair/replace System Upgrades at its own expense.

(c) The Company Interconnection Facilities and the System Upgrades must be designed, constructed, and installed in accordance with applicable System Impact and Facilities Studies and Good Utility Practice, and must be sufficient, as built and designed, to deliver the full energy output of the Facility to the Company Transmission System, to ensure the acceptance of the full energy output of the Facility into the Company Transmission System at the point of interconnection during normal system conditions consistent with the reliability of the transmission system in the area, and to enable the Facility to receive energy and capacity necessary to satisfy its operational requirements.

(d) As soon as practicable after receiving from Generating Company the first payment shown in Appendix E, and a form of security pursuant to Section 5.1 (a), below, Company will

commence construction of its Interconnection Facilities and System Upgrades. Generating Company reserves the right, upon written notice to Company, to suspend at any time all work by Company associated with the construction and installation of its Interconnection Facilities or System Upgrades, or both. In such event, Generating Company shall be responsible for the costs which Company (i) has incurred prior to the suspension to the extent such costs previously were authorized by Generating Company and (ii) reasonably incurs in winding up such work, including without limitation, the costs reasonably incurred to ensure the safety of persons and property and the integrity of the Company Transmission System and the costs reasonably incurred in connection with the cancellation of material and labor contracts. Company will invoice Generating Company pursuant to Section 5.1(f) and agrees to use its best efforts to minimize its costs.

(e) Company shall inform Generating Company on a monthly basis, and at such other times as Generating Company reasonably requests, of the status of the construction and installation of the Company Interconnection Facilities and System Upgrades, including, but not limited to, the following information: progress to date; a description of scheduled activities for the next period; the delivery status of all equipment ordered; and the identification of any event which Company reasonably expects may delay construction of, or increase the cost of, Company Interconnection Facilities and/or System Upgrades.

(f) Pursuant to an OATT amendment proposed by Company in FERC Docket No. ER00-2413-000, Generating Company will be entitled to a credit, equal to the total amount paid to Company for certain System Upgrades, and not refunded to Generating Company pursuant to this Section 3.7 (f), against the cost of transmission service subsequently reserved under the OATT for delivery of electricity from the Facility. If the crediting procedure contained in the OATT amendment is modified by the FERC, the Parties will conform this agreement to the modified provision. In connection with the filing of this Agreement at the FERC, Company shall include sufficient information for the FERC to determine 1) the reasonableness of any costs associated with the Agreement, 2) that any direct assignment of costs is appropriate, and 3) the basis for assigning or not assigning any transmission credits for any System Upgrades to be constructed.

Generating Company, Generating Company's Marketing agent, or Generating Company's power purchaser(s) will be responsible for arranging transmission service necessary for deliveries from the Facility across the Company's Transmission System. For all revenue that Company receives under the OATT for transmission service with the Facility designated as the source, or for each kW produced from the Facility and delivered onto the Company's Transmission System under a transmission service agreement under the OATT, Company shall credit Generating Company in an amount equal to the transmission service rate, on a dollar for dollar basis applied to Generating Company's total monthly bill for service, until such time as the cost of eligible portion of the System Upgrades (those to remove overloads) on Company System, has been offset in full, after which time this credit shall no longer apply. The System Upgrades are identified in Appendix A. Total estimated costs of System Upgrades that qualify for credits are identified in Appendix E. Any such credit shall be separately identified by Company and applied monthly against charges due Company for transmission service from the Facility. Generating Company may, at its option, transfer the credit for cost of the System Upgrades to Generating Company's marketing agent or Generating Company's power purchaser(s) for use in offsetting transmission service charges incurred in transmitting Generating Company's energy to the purchaser of such energy from the Facility across the Company Transmission System.

(g) Good Utility Practice requires Company to share its studies relating to the Interconnection with interconnected systems which may be Affected Systems. Subject to the jurisdiction, policy, and review of FERC, Generating Company shall be responsible for entering into such arrangements with Affected Systems as are necessary to address any effects of the Interconnection on Affected Systems.

Generating Company also agrees to indemnify and hold harmless Company, its directors, officers, agents, representatives and employees against and from any charges or assessments by Affected Systems against Company for the actual, reasonable costs incurred for system modifications or upgrades required by Good Utility Practice as a result of the Interconnection or the operation of the Facility or the Interconnection Facilities; provided however, no such payment or indemnification shall be required unless FERC determines that such costs are caused by Generating Company as a result of the Interconnection or the operation of the Facility or the Interconnection Facilities, and that such payment or indemnification is consistent with FERC policy.

3.8 Safety

(a) Subject to the provisions of Section 8.2, the Parties agree to be solely responsible for and assume all liability for the safety and supervision of their own employees, agents, representatives, and subcontractors.

(b) The Parties agree that all work (including switching, tagging, grounding, and isolation) performed by either Party which could be expected to affect the operations of the other Party will be performed in accordance with all applicable laws, rules and regulations pertaining to the safety of persons or property, including without limitation, compliance with the safety regulations and standards adopted under the Occupational and Safety Health Act (OSHA) of 1970, as amended from time to time, the National Electrical Safety Code, as amended from time to time, and Good Utility Practice.

3.9 Subcontractors

(a) Nothing in this Agreement will prevent either Party from utilizing the services of subcontractors as it deems appropriate; provided, however, that all such subcontractors agree to and comply with the terms and conditions of this Agreement.

(b) The creation of any subcontract relationship shall not relieve the retaining Party of any of its obligations under this Agreement. Each Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor it hires as if no subcontract had been made. Any obligation imposed by this Agreement upon either Party, where applicable, shall be equally binding upon and construed as having application to any subcontractor.

(c) Each Party will be liable for, indemnify, and hold harmless the other Party, its affiliates, and their officers, directors, employees, agents, and assigns from and against any and all claims, demands, or actions from its own subcontractors; and will be responsible for all costs,

expenses, and legal fees associated therewith and all judgments, decrees, and awards rendered therein.

(d) No subcontractor is intended to be or will be deemed a third party beneficiary of this Agreement.

(e) The obligations under this Section 3.9 are not limited in any way by any limitation on subcontractor's insurance.

3.10 Review and Inspection of Generating Company Interconnection Facilities

(a) Company, upon advance written notice to Generating Company, reserves the right to review and inspect all aspects of the design and construction of Generating Company's Protective Equipment and Generating Company Interconnection Facilities that reasonably could have a direct effect on Company's service to Company's other customers or the safety of Company personnel. Such review may include review of the specifications for Generating Company's Protective Equipment and Generating Company Interconnection Facilities, including without limitation, any material improvements, additions, modifications, replacements or other material changes to equipment, electrical drawings and one-line diagrams. Generating Company may be required to provide Company with as-built drawings which will be of good engineering quality and which may include: (i) one line diagram showing the connections between the Facility and the Company System; (ii) three line diagrams showing current and potential circuits for protective relays; (iii) relay tripping and control schematic diagrams; and (iv) instruction books for system protection elements.

(b) Company reserves the right to approve the proposed settings for relays specified by Generating Company. If requested by Generating Company, Company will provide system data needed to determine the relay settings and assist Generating Company in coordinating such relay settings with the Company System. Company's design review and approval of Generating Company's proposed settings is limited to the purpose of ensuring the protection and control of the Company System and shall not be construed as confirming or endorsing the design of Generating Company's Protective Equipment, Generating Company Interconnection Facilities or the Facility, or as a warranty of any type, including safety, durability or reliability thereof.

3.11 Review and Inspection of Company Interconnection Facilities and Company System

Generating Company, upon advance written notice to Company, has the right, but not the obligation, to inspect or observe the operation and maintenance activities, equipment tests, installation, construction, or other modifications to the Company Interconnection Facilities or Company System that reasonably could be expected to affect Generating Company's operations.

3.12 Right of Access

Generating Company agrees to furnish at no cost to Company the rights-of-way upon, over, under, and across the Facility Site reasonably necessary for the construction and operation of the Company Interconnection Facilities. At Company's request, a satisfactory site selected by mutual agreement of the Parties and located on the Facility Site shall be provided by and at Generating Company's expense for installation of Metering Equipment as identified in Appendix C, which may

be revised from time to time by written mutual agreement of the Parties. Generating Company grants to Company at all reasonable times the right of free ingress and egress to the Facility Site in accordance with Section 3.13 for the sole purpose of (i) testing, reading, or inspecting any of the Company's Metering Equipment, (ii) installing, altering, removing or repairing Company's Metering Equipment located on the Facility Site, or (iii) disconnecting Company's Metering Equipment from the Generating Company's Interconnection Facilities as permitted under this Agreement.

3.13 Access to Interconnection Facilities

Upon request, with as much advance notice as is appropriate in the circumstances, each Party agrees to grant to the other Party and its agents and subcontractors such access to its property and facilities as is necessary or appropriate for the other Party to construct, install, test, operate and maintain the Interconnection Facilities and the Facility in accordance with the terms and provisions of this Agreement and to exercise any other of its rights and carry out any other of its obligations under this Agreement; provided, however, that such access will not unreasonably disrupt or interfere with the normal operations of its business and that the Party provided access adheres to the safety rules and procedures established by the Party providing access. Each Party will execute such documents as the other Party may require to enable it to establish record evidence of such access rights. Such access rights will remain in effect for so long as this Agreement is in effect.

Any Party or its subcontractors performing construction, or other work, on the property of the other Party shall be responsible for proper housekeeping during the period the work is being performed and proper clean-up of the property in a timely fashion after the work is completed.

3.14 System Impact and Facilities Studies

System Impact and Facility Studies were completed by Company prior to the execution of this Agreement. These studies collectively have determined what Company Protective Equipment, Generating Company Protective Equipment, other Interconnection Facilities, and System Upgrades are necessary to connect the Company Transmission System with the Generating Company's Facility, and have determined estimates of the costs and construction schedules associated therewith. The Parties agree that the System Impact and Facilities studies do not determine what improvements, to the Company Transmission System, are necessary to transmit power from the Facility to specific points of receipt, but do establish the improvements needed to permit the Generating Company to operate the Facility, safely and reliably, on a firm basis during all hours of the year consistent with the reliability of transmission system in the area.

The Generating Company agrees to curtail the output of the Facility, if required, to mitigate both thermal and stability concerns. Actual level of curtailment would depend on final impedance values of the system and the generating unit and step-up transformer test data.

3.15 Testing of Facilities

(a) Prior to the interconnection and operation of the Facility with Company Transmission System, the Interconnection Facilities must be tested to ensure their safe and reliable operation in accordance with Good Utility Practice, any applicable Company, RTO, NERC and ECAR criteria and requirements and any applicable federal, state, and local laws, regulations, and requirements

("Pre-Commercial Testing"). Each Party shall provide the other Party with reasonable advance notice of such testing and of the opportunity to be present and witness such tests. The cost of all such testing shall be borne by Generating Company.

(b) Based upon the Pre-Commercial Testing, Generating Company is responsible for making any modifications necessary to ensure the Generating Company Interconnection Facilities' safe and reliable operation in accordance with Good Utility Practice, any applicable Company, RTO and ECAR criteria and requirements, and all applicable federal, state, and local laws, regulations, and requirements. Company is responsible for making any modifications necessary to ensure the safe and reliable operation of the Company Interconnection Facilities and System Upgrades in accordance with Good Utility Practice and all applicable RTO, NERC and ECAR criteria and requirements, and all applicable federal, state, and local laws, regulations, and requirements. Prior to the Commercial Operation Date, the reasonable costs of all such modifications are to be borne by Generating Company, except to the extent the modifications are required as a result of Company's negligence or willful misconduct.

(c) After the Interconnection has been permanently energized and commercial operation of the Facility has commenced, each Party shall test its facilities, at its own expense, in accordance with Good Utility Practice, including all applicable Company, RTO, and ECAR criteria and requirements. Each Party shall have the right, upon advance written notice, to require additional special testing of the other Party's facilities, if it reasonably believes that the other Party's facilities are adversely impacting the operation of the Company Transmission System or the Facility, or as may be otherwise prudent in accordance with Good Utility Practice, and shall have the right to be present and witness such tests. Such tests shall be at the requesting Party's expense, unless necessitated by deficiencies in data previously provided by the other Party or unless such tests reasonably show that the other Party's facilities are adversely impacting the operation of the Company System or the Facility, as applicable.

3.16 Timely Completion

(a) Generating Company agrees to use its best efforts to procure, construct, install, and test the Generating Company Interconnection Facilities in accordance with the schedule set forth in Appendix F, which schedule may be revised from time to time by written mutual agreement of the Parties.

(b) Company agrees to use its best efforts to procure, construct, install, and test the Company Interconnection Facilities and System Upgrades in accordance with the schedule set forth in Appendix F, which schedule may be revised from time to time by written mutual agreement of the Parties.

(c) Unless otherwise consistent with Good Utility Practice and agreed to by the Company, such agreement not to be unreasonably withheld, Generating Company agrees that the Interconnection will not be closed until all System Upgrades have been completed.

3.17 Generating Company Modeling Data and Verification

(a) Generating Company shall notify Company when the commissioning tests of the

Facility (by the Generating Company) are scheduled. The Company personnel needed to verify relevant portions of the commissioning tests may elect to be present at such tests, at Generating Company's expense.

(b) Generating Company shall provide Company with such final modeling data of the Facility and Interconnection Facilities that reflect final Facility data and settings of the generation protection and control equipment as is reasonably requested by Company and is necessary for reliable operation of the Company System, including but not limited to i) the turbine speed/load controls including the governor; ii) the excitation system including the automatic voltage regulator, power system stabilizer, over excitation controls and limits, and other controls and limits derived through the Facility commissioning tests.

(c) Company shall, if needed, conduct a follow-up stability study with the final modeling data if there is any material deviation from the modeling data previously supplied, at Generating Company's expense, to verify the satisfactory stability performance.

3.18 Environmental Compliance and Procedures

The Parties agree to comply with (i) all applicable Environmental Laws which affect the ability of the Parties to meet their obligations under this Agreement; and (ii) all local notification and response procedures required for all applicable environmental and safety matters which affect the ability of the Parties to meet their respective obligations under this Agreement.

3.19 Modifications to the Company Interconnection Facilities and Company System

Company, in its reasonable discretion and at its sole cost and expense, may undertake additions, modifications, or replacements of the Company Interconnection Facilities or the Company System so long as such additions, modifications, or replacements are consistent with Good Utility Practice. If such additions, modifications, or replacements might reasonably be expected to adversely affect Generating Company's operation of the Facility, Company will, except in cases of Emergency, provide ninety (90) calendar days' written notice or other such notice as is reasonable under the circumstances to Generating Company prior to undertaking such additions, modifications, or replacements. In the written notice, Company must advise Generating Company when such additions, modifications or replacements are expected to be made, how long such additions, modifications or replacements are expected to take, how such additions, modifications or replacements are expected to adversely affect Generating Company's operation of the Facility or operation of the Interconnection Facilities, and whether such additions, modifications or replacements are expected to interrupt the flow of Electricity from the Facility. If such additions, modifications or replacements are expected to interrupt the flow of Electricity from the Facility, the Parties shall endeavor to mutually agree in advance upon a schedule for such additions, modifications or replacements, and such agreement shall not be unreasonably withheld. Further, Company shall use reasonable efforts, in accordance with Good Utility Practice, to minimize the interrupt of flow of Electricity from the Facility.

3.20 Use of Interconnection Facilities by Third Parties

(a) Except as may be required by law, or as otherwise agreed to among the Parties, the

Interconnection Facilities shall be dedicated to the sole purpose of interconnecting the Facility to the Company Transmission System and shall be used for no other purpose.

(b) If required by law or if the Parties mutually agree to allow one or more third parties to use the Interconnection Facilities, or any part thereof, and such use decreases the capacity of the Interconnection Facilities available to the Facility, or otherwise causes any detriment to the Facility or to Generating Company, or benefits any party (including Company) other than Generating Company, then Generating Company and such third party user(s) and Company, if applicable, shall negotiate in good faith to determine the appropriate compensation, including the tax consequences thereof to Generating Company, due to Generating Company as a result of such third party use and to determine the appropriate allocation of the annual carrying charges. If the issue of such compensation or allocation cannot be resolved through such negotiations, it shall be submitted to the FERC for resolution.

(c) If one or more third parties are to use the Interconnection Facilities in accordance with this Section 3.20 and Company determines that, as a result, Good Utility Practice requires that modifications be made to the Interconnection Facilities, Company must comply with notification and scheduling provisions of Section 3.19. In no event shall Generating Company be responsible for the costs of any such modifications.

ARTICLE 4. SYSTEM OPERATION

4.1 Requirements For Operation

(a) Each Party shall operate in accordance with NERC Operating Standards, ECAR Criteria and any applicable directives of NERC and ECAR, as well as OSHA's transmission and distribution switching procedures for personnel as established in OSHA's Standard 29 CFR part 1910, if applicable.

(b) In accordance with Good Utility Practice, each Party agrees to design, install, maintain and operate their respective Interconnection Facilities so as to reasonably minimize the likelihood that a disturbance originating in its system would affect or impair the Company Transmission System or the Facility.

(c) The Generating Company is responsible for making any modifications necessary to ensure the Generating Company Interconnection Facilities' safe and reliable operation in accordance with Good Utility Practice, all applicable RTO, NERC and ECAR criteria and requirements, and all applicable federal, state, and local laws, regulations, and requirements. Company is responsible for making any modifications necessary to ensure the Company Interconnection Facilities' safe and reliable operation in accordance with Good Utility Practice and all applicable RTO, NERC and ECAR criteria and requirements, Company's usual criteria and requirements for such facilities, and all applicable federal, state, and local laws, regulations, and requirements. The costs of all such modifications are to be borne by the Party owning the facilities to be modified, except to the extent the modifications are required as a result of the other Party's actions or inactions.

4.2 Synchronization

The Generating Company shall assume all responsibility for properly synchronizing the Facility for operation with the Company Transmission System. Synchronization of the Facility to the Company Transmission System may, at Company's discretion, be coordinated with the Company System Control Center.

4.3 Net Demonstrated Real and Reactive Capabilities

The net demonstrated real and reactive capability shall be periodically demonstrated in accordance with ECAR Document No. 4 and NERC Planning Standards. In addition, individual generators in the generating Facility must be capable of providing the steady-state over- and under-excited reactive capability given by the manufacturer's generator capability curve at any MW dispatch level.

Tests that demonstrate these capabilities must be conducted and documented in accordance with ECAR Document No. 4. Such documentation shall be provided to Company. Company reserves the right to witness these tests.

4.4 Voltage Schedule/Power Factor/Reactive Power

(a) As noted in Section 4.14 below, Company does not presently anticipate the need to require Generating Company to provide significant amounts of interconnected operation services, including reactive power supply and voltage control services from the Facility. As a general matter, however, Company does require that Generating Company operate its Facility in such a manner as to avoid adverse impacts on Company System voltage. Generating Company will generally be able to comply with this requirement by operating its generation within +2% to –2% of unity power factor at the Interconnection Point, but Company reserves the right to specify the voltage schedule to be maintained by Generation Company. Consistent with this requirement and ECAR Document No.10 Generating Company shall install, operate and maintain an automatic voltage regulator to maintain the assigned scheduled voltage. A steady-state deviation from this schedule between +0.5% to –0.5% of the assigned schedule voltage will be permissible.

(b) In certain unusual situations where a voltage schedule is inappropriate, Company may substitute adherence to a specified voltage schedule with a requirement to maintain a specified power factor or reactive power output schedule. When the Facility is operating, Generating Company shall comply with any such requirement, provided such requirement is consistent with Good Utility Practice, within the Facility operating limits, and in accordance with ECAR Document No.10. A steady state deviation from this requirement within +2% to –2% will be permissible.

4.5 Voltage Range

The Facility must be capable of continuous non-interrupted operation within a steady-state voltage range of 92% to 105% of the nominal transmission voltage during system normal and single facility outage conditions. Company Transmission System nominal voltages are 765, 500, 345, 230, 161, 138, 88, 69, 46, 40, 34.5, and 23 kV. During Emergency and/or transient system conditions when voltage may temporarily be outside the 92% to 105% range, all reasonable measures should

be taken by each Party to avoid tripping of the Facility due to high or low voltage.

4.6 Frequency Range

The Facility must be capable of continuous, non-interrupted operation in the frequency range of 59.5 to 60.5 Hz. Limited time, non-interrupted operation is also expected outside this frequency range in accordance with the manufacturer's specifications and warranties.

4.7 Other Applicable Operating Requirements

In order to assure the continued reliability of the Company Transmission System, the Generating Company may be requested to adhere to other operating requirements and/or encouraged to adopt common operating practices. These include the coordination of maintenance scheduling, operating procedures during system emergencies, participation in control area operating reserves, provisions for backup fuel supply or storage, and provisions for emergency availability, including must-run operation.

All data reportable to ECAR and/or NERC shall be made available to Company if reasonably related to ensuring the safety and reliability of Company System. Generating Company shall provide Company with load flow and dynamic data as may be required by ECAR or NERC or as necessary for Company to comply with applicable ECAR and NERC requirements. All such data shall be identified in a manner enabling Generating Company to reasonably collect it and deliver it to Company in the format requested.

Prior to the Commercial Operation Date, the Parties shall establish communication protocols to promote coordinated and reliable operation of their facilities. These protocols shall include, but not be limited to, names and phone numbers of responsible personnel for normal operations and names and phone numbers of responsible personnel for emergency operating conditions. As part of routine communications, Parties shall timely communicate any unusual or unscheduled status of equipment or operation that may impact the safe and reliable operation of their facilities.

4.8 Make-Before-Break Transfer

Make-before-break transfer is only permitted between two live sources that are in, or close to, synchronization. A transfer switch designed for automatic make-before-break transition shall be equipped with logic to prevent a transfer if the specifications for either the Generating Company or the Company Transmission System source fall outside of the synchronizing requirements recommended by the manufacturer for the generating units at the Facility. Switch transfers made when the synchronizing requirements cannot be met shall be of the break-before-make type of transfer. The time that the Generating Company's generation is permitted to operate in parallel with the Company Transmission System during a make-before-break transfer shall be no greater than 100 milliseconds (6 cycles).

4.9 Continuity of Service

(a) Subject to Section 4.9(b) below, if required by Good Utility Practice to do so, Company may require Generating Company to curtail, interrupt or reduce deliveries of Electricity

if such delivery of Electricity adversely affects Company's ability to perform such activities as are necessary to safely and reliably operate the Company Interconnection Facilities or any part of the Company System.

(b) With respect to any curtailment, interruption or reduction permitted under Section 4.9(a), Company agrees that:

(1) the Company will use its best efforts to first notify the ECAR/MET Security Coordinator, or successor;

(2) the curtailment, interruption, or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;

(3) any such curtailment, interruption, or reduction shall be made on an equitable, non-discriminatory basis with respect to all users of the transmission system considering the actions necessary to remedy the problem at hand;

(4) when the curtailment, interruption, or reduction must be made under circumstances which do not allow for advance notice, Company will notify the Generating Company by telephone as soon as practicable of the reasons for the curtailment, interruption, or reduction and, if known, its expected duration. Telephone notification will be followed by written notification by the close of the next Business Day;

(5) when the curtailment, interruption, or reduction can be scheduled, Company will consult in advance with Generating Company regarding the timing of such scheduling and further notify Generating Company of the expected duration. Company agrees to use its best efforts to schedule the curtailment or interruption to coincide with the scheduled outages of the Facility, and if not possible, Company agrees to use its best efforts to schedule the curtailment or interruption during non-peak load periods.

(c) The Parties agree to cooperate and coordinate with each other to the extent necessary in order to restore the Facility, Interconnection Facilities, and the Company System to their normal operating state, consistent with system conditions and Good Utility Practice.

4.10 Emergency

(a) If Company determines that curtailment, interruption, or reduction is necessary because of an Emergency for which output from the Facility is contributing to such Emergency, the Company shall specify the corrective action to be taken. In the event Company requires Generating Company to curtail, interrupt, or reduce deliveries pursuant to this Section 4.10, Company shall (a) use its best efforts to mitigate the extent and duration of the curtailment, interruption or reduction and (b) provide any information reasonably requested by Generating Company to analyze the event. If any request or action by the Company hereunder does not stabilize or mitigate the Emergency, then Company shall use Good Utility Practice to allow the Facility to resume operating levels as

existed prior to such request as promptly as possible.

(b) Company will provide Generating Company with prompt oral notification by telephone of any Emergency regarding the Company System or Interconnection Facilities which may reasonably be expected to affect Generating Company's operation of its facilities, and Generating Company will provide Company with prompt oral notification by telephone of any Emergency regarding the Facility or the Interconnection Facilities which may reasonably be expected to affect Company's operations. Said notification shall indicate the reasons for the Emergency, the Emergency's expected effect on the operation of Generating Company's or Company's facilities and operations, the Emergency's expected duration, and the corrective action to be taken. In any circumstance where the Emergency results in an outage or interruption of the Facility or its ability to deliver Electricity, the prior telephone notification will be followed by written confirmation as soon as reasonably practicable.

(c) If a Party determines in its good faith judgment that an Emergency exists which endangers or could endanger life or property, such Party shall take such action as may be reasonable and necessary to prevent, avoid, or mitigate injury and danger to, or loss of, life or property.

(d) Neither Party shall be liable to the other for any action it takes in responding to an Emergency so long as such action is made in good faith and consistent with Good Utility Practice.

(e) Generating Company reserves the right, in its sole discretion, to isolate or disconnect its Facility from the Company Transmission System if it believes an Emergency may cause damage to its Facility. Generating Company will provide Company with prompt oral notification or such other notice as is reasonable under the circumstances.

4.11 Abnormal Condition

To the extent Company is aware of any Abnormal Condition, Company will provide Generating Company with reasonably prompt oral notification of such Abnormal Condition if it may reasonably be expected to affect Generating Company's Facility or operations. To the extent that Generating Company is aware of any Abnormal Condition, Generating Company will provide Company with reasonably prompt oral notification of such Abnormal Condition if it may reasonably be expected to affect the operations of the Company's facilities. To the extent known, any such oral notification provided hereunder shall include a description of the Abnormal Condition, the Abnormal Condition's expected effect on the operation of Generating Company's or Company's facilities, its anticipated duration, and the corrective action taken and/or to be taken with respect to the notifying Party's facilities. Each Party shall cooperate and coordinate with the other Party in taking whatever corrective measures on its facilities as are reasonably necessary to mitigate or eliminate the Abnormal Condition, including, to the extent necessary, adjusting the operation of equipment to within its rated operating parameters; provided, however, that such measures are consistent with Good Utility Practice and do not require operation of any of the Parties' facilities outside their operating limits. Generating Company reserves the right, in its sole discretion, to isolate or disconnect its Facility from the Company System if it believes an Abnormal Condition may cause damage to its Facility.

4.12 Energy Imbalance Service

Energy Imbalance Service is provided when a difference occurs between the scheduled and the actual delivery of energy between Generating Company's Facility and Company's Transmission System. Generating Company must either purchase this service from Company or make arrangements with the appropriate customer(s) (e.g., its power marketer(s) or customers(s)), for the assumption of responsibility for this service. Charges for Energy Imbalance Service are calculated pursuant to Company's OATT, unless otherwise specified in an attachment hereto.

4.13 Compliance with NERC and ECAR Standards

The Parties agree that the implementation of this Agreement shall comply with all material requirements of the manuals, standards, criteria and guidelines of NERC and ECAR, or any successor agency assuming or charged with similar responsibilities related to the operation and reliability of the North American electric interconnected transmission grid, and to operate, or cause to be operated, their respective facilities in accordance with such manuals, standards, criteria or guidelines. To the extent that this Agreement does not specifically address or provide the mechanisms necessary to comply with such NERC or ECAR manuals, standards, criteria or guidelines, the Parties hereby agree that each Parties shall provide to the other Party all such information as may reasonably be required for the other Party to comply with such manuals, standards, criteria or guidelines

4.14 Interconnected Operation Services

Company has developed its system to be capable of providing the interconnected operation services required in the AEP Control Area under reasonably anticipated operating conditions, including the capability to provide the Ancillary Services as defined in the OATT, that Company, as a Transmission Provider, is required to provide under its OATT. If Company requests interconnected operation services from Generating Company, which services include but are not limited to the provision or curtailment of real or reactive power, VAR support, and other Ancillary Services. Company will compensate Generating Company pursuant to mutually agreed terms, or pursuant to any applicable FERC-approved tariff filed by Generating Company.

4.15 Voltage Level and Location of Interconnection

All Electricity delivered by the Facility to Company shall be delivered at the Interconnection Point specified in Appendix A, at a nominal voltage of 138 kilovolts.

4.16 Metering

(a) Electricity supplied and delivered under this Agreement shall be measured by suitable Metering Equipment provided, owned, and maintained by the Company at the metering point(s) as set forth in Appendix C, consisting of a minimum of a primary metering system and a duplicate, back-up metering system.

(b) Suitable metering and telemetering equipment at the metering point, as provided under subsection (a) above, shall include potential and current sources, electric meters, and such

other equipment as may be needed to provide records in the agreed upon engineering units, for each direction of flow, in accordance with the following specifications:

(i) A continuous, accumulating record of watthours and varhours shall be provided by means of the registers on the meters;

(ii) A continuous signal of analog watts and vars shall be telemetered;

(iii) An accumulating record of the watthours for each clock hour shall be telemetered. All metered values provided to the Parties shall originate from common metering equipment. The watthour pulse value shall be sufficient to resolve full generator output and minimum in-flows of auxiliary power. An hourly freeze pulse shall be provided by Company;

(iv) The timing of the digital telemetry freeze pulse, and of the calendar-clock in the data recorder where used, shall be synchronized to within 1/2 second of Universal Coordinated Time;

(v) Metering at locations different from the Interconnection Point shall be compensated for losses to the Interconnection Point if requested by either Party;

(vi) For the purpose of checking the performance of the Metering Equipment installed by any Party, the other Party may install check metering equipment. Check metering equipment shall be owned and maintained by the Party requesting the equipment;

(vii) Upon termination of this Agreement, the Party owning Metering Equipment on the other Party's property shall remove, within one year, the Metering Equipment from the premises of the other Party; and

(viii) Company shall specify reasonable communications protocols for the telemetry; Generating Company shall have the same right to all meter and telemetry data as the Company, at Generating Company's cost, on a contemporaneous basis.

(c) The Metering Equipment shall be tested at least once every two (2) years by the Company, unless the Parties agree to test more often. Either Party may request a special test of meters, but such party shall bear the cost of such testing unless an inaccuracy shall be disclosed exceeding two percent (2%), in which case Company shall be responsible for the costs of special testing. Authorized representatives of both Parties shall have the right to be present at all routine or special tests and to inspect any reading, testing, adjustment, or calibration of the meters.

(i) The meters, test switches and wiring termination equipment shall be sealed, and the seals shall be broken only when the meters are to be tested or adjusted.

(ii) If, at any test of Metering Equipment, an inaccuracy shall be disclosed exceeding two percent (2%), the account between the Parties for service theretofore delivered shall be adjusted to correct for the inaccuracy disclosed

over the shorter of the following two periods: (1) for the prior thirty (30) calendar days immediately preceding the day of the test, or (2) for the period that such inaccuracy may reasonably be determined to have existed. Before being placed back in service, the Metering Equipment shall be recalibrated such that the accuracy is within +/- three tenths of one percent (0.3%) to conform to ANSI Standard Requirements for Revenue Metering Equipment.

(iii) Should the metering equipment, as provided for under (b) above, at any time fail to register, the Electricity delivered shall be determined from the best available data including check metering.

(d) Unless otherwise agreed to by the Parties, the accuracy of the Metering Equipment shall be +/- three tenths of one percent (0.3%) or better to conform to ANSI Standard Requirements for Revenue Metering Equipment.

(e) Generating Company will electronically provide the real time status of station switching equipment (i.e., circuit breakers, motor operated air break switches, etc.) and real time analog measurements of electrical parameters including individual generator watt and var output, bus voltages and line/transformer watt and var flows to Company's control center or successor in function. Company shall specify reasonable communications protocol for this telemetry.

4.17 Voltage and Current Unbalance

All three-phase generation by Generating Company's Facility shall produce balanced 60 Hz voltages. Voltage unbalance attributable to the Generating Company's Facility shall not exceed 1.0% measured at the Interconnection Point. Voltage unbalance is defined as the maximum phase deviation from average as specified in ANSI C84.1, "American National Standard for Electric Power Systems and Equipment – Voltage Ratings, 60 Hertz." Similarly, phase current unbalance attributable to the Generating Company's Facility shall not exceed that which would exist with balanced equipment in service, measured at the Interconnection Point.

ARTICLE 5. INTERCONNECTION COSTS AND BILLING

5.1 Interconnection Construction Completion and Cost

(a) At the time Generating Company executes and returns this Agreement to Company, Generating Company shall also provide Company with a letter of credit, from a reasonably bank acceptable to Company, or other form of security reasonably acceptable to Company that (i) names Company as beneficiary and (ii) is in an amount equivalent to the estimated costs determined by Company of the new Interconnection Facilities and System Upgrades which Company is required to install, less the amount of any construction deposits provided by Generating Company in accordance with Section 3.7(d). Such credit support shall specify a reasonable expiration date, and

the maximum amount available to be drawn under any letter of credit shall reduce on a monthly basis in accordance with the monthly payment schedule set forth in Appendix E

(b) If any event occurs that will materially affect the time for completion of the Interconnection Facilities or System Upgrades, or the ability to complete them, the Company shall promptly notify Generating Company. In such circumstances, the Company shall within ten (10) Business Days of notifying the Generating Company of such delays, convene a technical meeting with the Generating Company to evaluate the alternatives available to the Generating Company. The Company also shall make available to the Generating Company studies and work papers related to the delay, including all information that is in the possession of the Company that is reasonably needed by the Generating Company to evaluate any alternatives.

(c) While the Company agrees to provide Generating Company with its best estimate of the cost of Company's Direct Assignment Facilities described in Appendix A, such estimate shall not be binding. Generating Company will retain the right to approve any significant deviation in the scope of the work shown in Appendix A if such deviations would result in an estimated aggregate increase of ten percent (10 %) over the cost shown in Appendix E. The actual cost of the Direct Assignment Facilities shall be incurred in accordance with Good Utility Practice.

(d) Generating Company shall have the right to receive such cost information as is reasonably necessary to verify the cost of the Company Interconnection Facilities and System Upgrades and that such cost was incurred in accordance with Good Utility Practice. Generating Company shall have the right to audit the Company's accounts and records pertaining to this Agreement, at the offices where such accounts and records are maintained, provided proper notice is given prior to any audit, and provided further that the audit will be limited to those portions of such accounts and records that relate to services provided under this Agreement.

(e) Within a timely manner after completion of the construction of the Company Interconnection Facilities and System Upgrades, Company shall provide an invoice of the final cost of the Company Interconnection Facilities and System Upgrades and the net amount due from Generating Company allowing for the monthly payments made by Generating Company pursuant to Section 5.3(a). Within twenty (20) Business Days after receipt of such invoice, Generating Company shall reimburse Company for the amount of such invoice. To the extent that the estimated costs already paid by Generating Company exceed the final, actual costs that Generating Company is obligated to pay hereunder, the Company shall refund to Generating Company an amount equal to the difference within thirty (30) calendar days of the issuance of the invoice of the final cost.

(f) If Generating Company suspends the performance of the work by the Company pursuant to Section 3.7(d), Generating Company agrees to pay Company carrying charges accrued daily at the then current prime interest rate (the base corporate loan interest rate) published in the Money and Investing section of the Wall Street Journal on the day Generating Company gives notice of the suspension, or, if no longer so published, in any mutually agreeable publication, plus 2% per annum on all unreimbursed expenditures irrevocably committed to or actually made by Company related to the performance of the work up to the time the suspension was requested. In the event Generating Company suspends such work and has not requested Company to recommence such work required hereunder on or before the 365th day after such requested suspension, this Agreement shall be deemed terminated. If this Agreement is deemed terminated as provided herein, the Generating

Company shall be responsible only for costs in accordance with Section 3.7(d). Any non-returnable equipment that has not already been installed by Company shall become the property of Generating Company "as is" upon payment of Company's costs as provided for in Section 3.7(d).

(g) In accordance with Sections 3.7 and 3.15, Generating Company shall be responsible for the costs reasonably incurred by Company to establish the Interconnection, to test the Facility and Interconnection Facilities, maintain the Interconnection Facilities, and to perform switching which is beyond the routine switching performed for the mutual benefit of the Parties.

(h) The Parties agree that Generating Company Interconnection Facilities were not jointly planned with the Company System and that Generating Company Interconnection Facilities are not integrated into the planning or operations of Company System to serve Company's customers or those customers of any other AEP Operating Company.

5.2 Generating Company Reimbursement for Taxes

(a) The Parties intend that all costs paid by Generating Company pursuant to Section 3.7 (a) and (b) hereof ("Company Construction Costs") shall be non-taxable contributions to capital under Section 118(a) of the Internal Revenue Code of 1986 as amended (the "Code") and the principles of Notice 88-129, and shall not be taxable as contributions in aid of construction under Section 118(b) of the Code.

(b) Notwithstanding Section 5.2(a), in the event Federal or state income taxes are imposed upon Company with respect to any Company Construction Costs, Generating Company agrees to reimburse Company for the effect of such taxes, including any appropriate gross up for income tax plus any penalty imposed as a result of the treatment of the costs paid by Generating company as specified in Section 5.2 (a) , computed in accordance with the method set forth in Ozark Gas Transmission Corp., 56 FERC ¶ 61,349 (1991), using a discount rate equal to 9.33%, except where such penalty was accrued due to non-payment of taxes by Company where Generating Company timely reimbursed Company for the taxes so incurred, plus any interest charged to Company by the IRS or a state, as a result of the treatment of the costs paid by Generating Company as specified in Section 5.2(a). Generating Company shall not reimburse Company for penalties imposed due to tax reporting positions unrelated to Company Construction Costs, even if the amount of the penalty is affected by the tax reporting position described in Section 5.2(a).

(c) Generating Company shall have the right to seek, at its own expense and on behalf of Company, a Private Letter Ruling (including, if applicable, a Technical Advice Memorandum) from the Internal Revenue Service as to whether any of the sums paid by the Generating Company to Company under the terms of this Agreement are subject to federal income taxation. To the extent any such Private Letter Ruling concludes that such sums are not taxable to Company, Company shall immediately refund to Generating Company all amounts that Generating Company may have previously advanced to Company for such taxes, penalties, and interest under this Section 5.2 plus interest from the date of payment by Generating Company through the date of refund by Company. The interest due to Generating Company for the period of time after the date that funds are advanced to Company shall be computed using the interest

rates in effect for the appropriate periods as determined under Section 6621(a)(1) of the Code and shall be payable regardless of whether Company received interest from the Internal Revenue Service upon resolution of the tax issue involving the treatment of the costs paid by Generating Company as specified in Section 5.2(a). The principles of this Section 5.2(c) shall also apply if the tax issue involving the treatment of the costs paid by Generating Company as specified in Section 5.2(a) is resolved by litigation or other administrative proceeding.

(d) Generating Company has the right to require Company, at Generating Company's expense, to contest, appeal, or seek abatement of any taxes asserted or assessed against Company for which Generating Company may be required to reimburse Company under this Agreement. Company will promptly notify Generating Company, in writing, of any assertion of or proposal to assess such taxes. No payment shall be payable by Generating Company to Company for such taxes until such taxes are assessed by a final, non-appealable order by a court or agency of competent jurisdiction, unless such payment is a prerequisite to an appeal or abatement. Generating Company shall be entitled to participate in any appeal or abatement process contemplated by this Section 5.2(c) so long as and to the extent that Generating Company's involvement in said process does not unduly hinder or prejudice Company's ability to effectively appeal or seek abatement of such taxes; provided, however, that Generating Company shall not be entitled to obtain any tax return information of the Company other than that pertaining to payments received by the Company from the Generating Company pursuant to this Agreement, and any company tax return information Generating Company may obtain shall be regarded as confidential. Generating Company shall be responsible for any interest and, in accordance with Section 5.2(b), penalty charged to Company by the IRS or a state, as a result of the treatment of the costs paid by Generating Company as specified in Section 5.2(a).

(f) In the event a written claim for Federal or state income taxes is made to Company with respect to any Company Construction Costs because these were deemed taxable, the Company shall provide Generating Company written notice of the amount of the claim for taxes as soon as practicable (but in no event more than ten (10) calendar days) after its receipt, and shall furnish Generating Company with copies of such claim for Company Construction Cost taxes and all other writings received from the Federal or state taxing authority to the extent relating to such claim. Company shall not pay such claim for Company Construction Cost taxes until at least thirty (30) calendar days after providing Generating Company such written notice unless Company is required to do so by law or regulation and in the written notice described herein, the Company has notified Generating Company of such requirement.

5.3 Invoices and Payments

(a) Company shall render to Generating Company monthly statements by regular mail, facsimile or other acceptable means conforming to the provisions of Article 7. Such statement shall set forth in reasonable detail any costs incurred by Company or other charges or amounts payable by Generating Company under the terms of this Agreement for the period covered thereby in connection with the completion of the Company Interconnection Facilities and System Upgrades. Generating Company shall make payment of the amount shown to be due to Company by wire transfer to an account specified by Company not later than the twentieth (20th) calendar day after receipt of the statement, unless such day is not a Business Day, in which case Generating Company

shall make payment on the next Business Day. All such payments shall be deemed to be made when said wire transfer is received by Company. Overdue payments shall accrue interest daily at the then current prime interest rate (the base corporate loan interest rate) published in the Money and Investing section of the Wall Street Journal as of the due date, or, if no longer so published, in any mutually agreeable publication, plus 2% per annum, from the due date of such unpaid amount until the date paid.

(b) In the event the Generating Company fails, for any reason other than a billing dispute as described below, to make payment to the Company on or before the due date as described above, and such failure of payment is not corrected within thirty (30) calendar days after the Company notifies the Generating Company to cure such failure, an Event of Default by the Generating Company shall be deemed to exist. In the event of a billing dispute between the Company and the Generating Company, the Company will proceed to perform its responsibilities under this Agreement as long as the Generating Company (i) continues to make all payments not in dispute, (ii) has in effect a Letter of Credit to cover construction work for Company Interconnection and System upgrades pursuant to Appendix A or (iii) upon request of Company, pays into an independent escrow account the portion of any invoice for post-operation services in dispute, pending resolution of such dispute.

5.4 Adjustments

In the event adjustments or corrections to monthly statements are required as a result of errors in computation or billing, Company shall promptly recompute amounts due hereunder and correct any errors in such statements. If the total amount, as recomputed, due from Generating Company is less than the total amount due as previously computed, and payment of the previously computed amount has been made, the difference shall be paid to Generating Company within twenty (20) calendar days after correction of the erroneous invoice(s), together with interest calculated in accordance with the methodology specified in Section 5.3; if the total amount, as recomputed, due from Generating Company is more than the total amount due as previously computed, and payment of the previously computed amount has been made, the difference shall be invoiced to Generating Company according the terms of Section 5.3; provided, however, that no adjustment for any statement or payment will be made unless objection to the accuracy thereof was made prior to the lapse of two (2) years from the rendition thereof; and provided further that this Article 5 will survive any termination of the Agreement for a period of two (2) years from the date of such termination for the purpose of such statement and payment objections.

5.5 Payment Not a Waiver

Payment of invoices by Generating Company will not constitute a waiver of any right or claims Generating Company may have under this Agreement or under law.

ARTICLE 6. DEFAULTS AND REMEDIES

6.1 Events of Default and Termination

It shall be an "Event of Default" in respect of a Party under this Agreement, if a Party shall fail in any material respect to comply with, observe or perform, or default in the performance of, any material covenant or obligation under this Agreement or if any representation or warranty made herein by a Party shall fail to be true and correct in all material respects, and after receipt of written notice (including written notice to Project Finance Holder, in the event of a Generating Company failure or default), such failure shall continue for a period of thirty (30) calendar days, provided, however, if such failure is not capable of cure within thirty (30) calendar days, the Party in default shall commence such cure within thirty (30) calendar days after notice and continuously and diligently complete such cure within one hundred twenty (120) calendar days of receipt of such notice. The Project Finance Holder will have the right, but not the obligation, to cure any default by Generating Company.

If an Event of Default shall occur and continue for more than one hundred twenty (120) calendar days from the date the notice of default is received, the non-defaulting Party may, by notice and subject to FERC approval, terminate this Agreement as of the date such later notice is received. If the non-defaulting Party is Company, Company may at its election, upon receiving final FERC approval of the termination of this Agreement, open Generating Company's Interconnection with the Company Transmission System at the Interconnection Point. In addition to the rights and remedies described in this Agreement, the non-defaulting Party may exercise, at its election, any right or remedy it may have at law or in equity, including but not limited to compensation for monetary damages, injunctive relief and specific performance.

ARTICLE 7. NOTICES AND REPRESENTATIVES OF THE PARTIES

7.1 Notices

Any notice, demand or request required or authorized by this Agreement to be given by one Party to the other Party shall be in writing. It shall either be personally delivered, transmitted by electronic mail, telecopy or facsimile equipment (with receipt verbally and electronically confirmed), sent by overnight courier or mailed, postage prepaid, return receipt requested, to the other Party at the address designated pursuant to Article 7. Any such notice, demand or request so delivered or mailed shall be deemed to be given when so delivered or three (3) Business Days after mailed.

7.2 Addresses of the Parties

(a) Notices and other communications by Generating Company to Company shall be addressed to:

Vice President, Transmission Asset Management
American Electric Power Service Corporation
825 Tech Center Drive
Gahanna, OH 43230
Telephone: 614-552-1700
Facsimile: 614-552-2602

and,

Director, Transmission & Interconnection Services
American Electric Power Service Corporation
1 Riverside Plaza
Columbus, OH 43215
Telephone: 614-223-2764
Facsimile: 614-223-1555

(b) Notices and other communications by Company to Generating Company shall be addressed to:

Director Project Management
Kentucky Mountain Power, LLC
2810 Lexington Financial Center
250 West Main Street
Lexington, KY 40507

and,

Arthur Thomas
Kentucky Mountain Power, LLC
2810 Lexington Financial Center
250 West Main Street
Lexington, KY 40507

(c) Either Party may change its address by written notice to the other in accordance with this Article 7.

(d) Upon written request by Generating Company, Company shall provide to Generating Company's designated Project Finance Holders, in the same manner provided by Company to Generating Company under Article 7.1, copies of any and all written notices, demands or requests required or authorized by this Agreement to be given by Company to Generating Company.

ARTICLE 8. INSURANCE, INDEMNIFICATION AND LIMITATION OF LIABILITY

8.1 Insurance

(a) During the term of this Agreement, each Party shall procure, pay premiums for and maintain in full force and effect, with it as named insured and the other Party and its employees, agents and Affiliates as additional insureds, comprehensive general liability insurance, including coverage for (1) products and completed operations, (2) broad form contractual liability, and (3) explosion, collapse and underground damage exclusion deletion, all with limits of not less than One Million Dollars ($1,000,000) each occurrence and One Million Dollars ($1,000,000) aggregate, for bodily injury and property damage. Each Party shall maintain builder's risk or such other insurance

to cover the loss of all or a portion of the Company Interconnection Facilities or Generating Company Interconnection Facilities, as applicable, during the construction of the same in an amount equal to the replacement value of said Facilities. Each Party shall also be responsible for ensuring applicable worker's compensation insurance, as required by the Commonwealth of Kentucky, is in place for all of their respective employees, agents and others performing work set forth in this Agreement.

(b) Each insurance policy provided by a Party, except worker's compensation, shall include the following:

(i) At least thirty (30) calendar days prior written notice of cancellation, termination, or material change to the other Party, except for non-payment of premium which shall be ten (10) calendar days advanced written notice; and

(ii) A waiver of subrogation in favor of the other Party, its Affiliates and their officers, directors, agents, subcontractors and employees.

(c) Evidence of insurance for all coverages specified herein shall be provided to the other Party prior to the commencement of construction of any Company Interconnection Facilities and System Upgrades. During the term of the Agreement, each Party agrees to provide the other, upon request, with certificates of the insurance evidencing the coverage described in this Article 8. All insurance coverage required under this Agreement shall be provided by insurance companies mutually agreed upon by the Parties.

(d) The insurance coverages described above shall be primary with respect to any coverage available to the other Party and shall not be deemed to limit the insured Party's liability under this Agreement.

(e) Either Party may provide adequate self-insurance in lieu of the requirements set forth in this Section 8.1, subject to the approval of the other party, such approval not to be unreasonably withheld.

8.2 Indemnification

(a) Generating Company hereby agrees to indemnify and hold harmless Company, its directors, officers, agents, representatives, and employees against and from any and all claims, demands, causes of action, losses and liabilities (including any cost and expense of litigation and reasonable attorneys fees incurred by Company in defending any action, suit or proceeding, provided that Company afforded Generating Company a reasonable opportunity in such action, suit or proceeding to conduct Company's defense and to approve any settlement agreements) for or on account of bodily injury to, or the death of, persons, or for damage to, or destruction of, property belonging to Company or others, to the extent that such injury or harm is caused by or arises from negligent acts or willful misconduct of Generating Company associated with (i) facilities, property and equipment owned or controlled by Generating Company, or Generating Company's operation and maintenance thereof; (ii) the delivery of electricity to the Interconnection Point by Generating Company or by any entity to whom Generating Company sells Electricity from the Facility; (iii) the use or presence of electricity on Generating Company's side of the Interconnection Point, unless such

electricity originated from Company; or (iv) Company's exercise of its rights under Section 6.1 of this Agreement; provided however, the provisions of this section shall not apply to the extent that such claims, demands, causes of action, losses and liabilities are attributable to the negligence, fault, or willful misconduct of Company or its Affiliates, and their directors, officers, employees, agents, or representatives.

(b) Company hereby agrees to indemnify and hold harmless Generating Company, its officers, directors, Affiliates, agents, representatives, and employees against and from any and all claims, demands, causes of action, losses and liabilities (including any cost and expense of litigation and reasonable attorneys fees incurred by Generating Company in defending any action, suit or proceeding, provided that Generating Company afforded Company a reasonable opportunity in such action, suit or proceeding to conduct Generating Company's defense and to approve any settlement agreements) for or on account of bodily injury to, or the death of, persons, or for damage to, or destruction of, property belonging to Generating Company or others, to the extent that such injury or harm is caused by or arises from negligent acts or willful misconduct of Company associated with (i) facilities, property and equipment owned or controlled by Company, or Company's operation and maintenance thereof; (ii) the transmission and delivery of electricity from the Interconnection Point by Company; (iii) the use, or presence of electricity on Company's side of the Interconnection Point, unless such electricity originated from Generating Company; or (iv) Generating Company's exercise of its rights under Article 6.1 of this Agreement; provided however, the provisions of this section shall not apply to the extent that such claims, demands, causes of action, losses and liabilities are attributable to the negligence, fault, or willful misconduct of Generating Company or its Affiliates, and their directors, officers, employees, agents, or representatives.

(c) Except to the extent required by Sections 8.2(a) and 8.2(b) of this Agreement, in no event shall either Party, its parent corporation, subsidiaries or affiliates, partners in Generating Company, their officers, directors, and their affiliates, with respect to any claim arising out of this agreement, whether based on contract, tort (including the negligence of such party, whether sole or joint and concurrent with the negligence of other Party or others, gross negligence, willful misconduct, and strict liability) or otherwise, be liable for any indirect, special, incidental, punitive, exemplary, or consequential damages.

ARTICLE 9. FORCE MAJEURE

9.1 Effect of Force Majeure

(a) Except for the obligation to make any payments under this Agreement, the Parties shall be excused from performing their respective obligations under this Agreement and shall not be liable in damages or otherwise if and to the extent that they are unable to so perform or are prevented from performing by a Force Majeure, provided that (i) the non-performing Party, as promptly as practicable after its knowledge of the occurrence of the Force Majeure, but in no event later than fourteen (14) days thereafter, gives the other Party written notice describing the particulars of the occurrence; (ii) the suspension of performance is of no greater scope and of no longer duration than is reasonably required by the Force Majeure; (iii) the non-performing Party uses all reasonable efforts to remedy its inability to perform; (iv) as soon as the non-performing Party is able to resume performance of its obligations excused as a result of the occurrence, it gives prompt

written notification thereof to the other Party; and (v) neither Party shall be required to settle any strike, walkout, lockout or other labor dispute on terms which, in the sole judgment of the Party involved in the dispute, are contrary to its interest, it being understood and agreed that the settlement of strikes, walkouts, lockouts or other labor disputes shall be entirely within the discretion of the Party having such dispute.

(b) In no event will any condition of Force Majeure extend this Agreement beyond its stated term.

ARTICLE 10. COMPLIANCE WITH LAW; PERMITS; APPROVALS

10.1 Applicable Laws and Regulations

This Agreement and all rights, obligations, and performances of the Parties hereunder are subject to Applicable Laws and Regulations. Notwithstanding the foregoing, each Party shall have the right at its sole expense to contest the application of any Applicable Laws and Regulations to such Party before the appropriate authorities.

10.2 Approvals, Permits, Etc.

Each Party shall give all required notices, and shall use its best efforts to procure and maintain all necessary governmental approvals, permits, licenses and inspections necessary for its performance of this Agreement, and shall pay all charges and fees in connection therewith.

ARTICLE 11. DISPUTE RESOLUTION

11.1 Internal Dispute Resolution Procedures

Each Party shall appoint a representative who shall be responsible for administering this Agreement on behalf of such Party and for representing the Party's interests in disagreements. Any dispute that is not resolved between the Parties' representatives within ten (10) Business Days of when the disagreement is first raised by written notice by either Party to the other Party shall be referred by the Parties' representatives in writing to the senior management of the Parties for resolution. In the event the senior management are unable to resolve the dispute within ten (10) Business Days (or such other period as the Parties may agree upon), each Party may pursue resolution of the dispute through other legal means consistent with the terms of this Agreement. All negotiations pursuant to Section 11.1 for the resolution of disputes will be confidential, and shall be treated as compromise and settlement negotiations for purposes of the Federal Rules of Evidence and State Rules of Evidence.

11.2 Continued Performance

The Parties shall continue to perform their respective obligations under this Agreement during the pendency of any dispute including a dispute regarding the effectiveness or the purported termination of this Agreement.

11.3 Equitable Remedies

Nothing herein shall prevent either Party from pursuing or seeking any equitable remedy available to it under applicable law, at any time, in any court of competent jurisdiction.

11.4 Arbitration

(a) If any claim or dispute arising hereunder is not resolved within sixty (60) calendar days after notice thereof to the other Party, either Party may demand in writing the submission of the dispute to binding arbitration in Cincinnati, Ohio or some other mutually agreed upon location and shall be heard by one mutually agreed-to neutral arbitrator under the American Arbitration Association's Commercial Arbitration Rules ("Arbitration Rules"); provided, however, that, in the event of a conflict between the Arbitration Rules and the terms and provisions of this Article 11, the terms and provisions of this Article 11 shall govern. If the Parties fail to agree upon a single arbitrator, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall select a third arbitrator to chair the arbitration panel. Each Party shall be responsible for its own costs incurred during the arbitration process and for one half the costs of the single arbitrator jointly chosen by the Parties, or in the alternative the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen.

(b) Unless otherwise agreed, the arbitration process shall be expeditiously concluded no later than four (4) months after the date that it is initiated and the award of the arbitrator shall be accompanied by a reasoned opinion if requested by either Party. The arbitrator(s) shall have no authority to award punitive or treble damages or any damages inconsistent with the terms of this Agreement. The arbitrator(s) shall have the authority only to interpret and apply the terms and conditions of this Agreement and shall have no power to modify or change any term or condition. The arbitrator(s) shall be required to follow all applicable laws and regulations. The arbitration shall be conducted as a common law arbitration and the decision of the arbitrator(s) rendered in such a proceeding shall be final; provided, however, that such decision may be challenged solely on grounds that the conduct of the arbitrator(s) or the decision itself violates the standards set forth in the Federal Arbitration Act. Either Party may file for a judgment on the arbitration decision in any court having jurisdiction. The decision must also be filed at the FERC if it affects FERC-jurisdictional rates, terms, and conditions of service or facilities.

11.5 Procedures

(a) Subject to Section 13.16, the procedures for the resolution of disputes set forth in this Agreement shall be the sole and exclusive procedures for the resolution of disputes; provided, however, that a Party may seek a preliminary injunction or other preliminary judicial relief if in its judgment such action is necessary to avoid irreparable damage or to preserve the status quo. Despite such action, the Parties will continue to participate in good faith in the procedures specified herein. All applicable statutes of limitations and defenses based upon the passage of time shall be tolled while the procedures specified herein are pending. The Parties will take such action, if any, required to effectuate such tolling. Each Party is required to continue to perform its undisputed obligations under this Agreement pending final resolution of a dispute.

(b) Either Party may file a petition or complaint with the FERC with respect to any claim or dispute over which the FERC has jurisdiction; provided, however, that a Party may not file a petition or complaint with the FERC with respect to an issue that it has submitted to binding arbitration pursuant to this Article 11. A Party may file a petition or complaint with FERC with respect to, or related or to, an issue that the other Party has submitted to binding arbitration no later than ten (10) calendar days after the issue has been submitted to arbitration and all Parties have received notice of the arbitration, in which case the arbitration shall he terminated or held in abeyance until such time as FERC acts. Nothing herein precludes the Party that sought arbitration from urging FERC to dismiss that matter on the grounds that it is more appropriately resolved through arbitration.

11.6 Confidentiality

The existence, contents, or results of any arbitration proceeding conducted under this Article 11 may not be disclosed without the prior written consent of both Parties; provided, however, that either Party may (a) make such disclosures as may be necessary to (1) satisfy regulatory obligations to any regulatory authority having jurisdiction, or (2) seek or obtain from a court of competent jurisdiction judgment on, confirmation, or vacation of an arbitration award; (b) inform its lenders, affiliates, auditors, and insurers, as necessary, under pledge of confidentiality; and (c) consult with experts as required in connection with the arbitration proceeding under pledge of confidentiality. If either Party seeks a preliminary injunctive relief from any court to preserve the status quo or avoid irreparable harm pending arbitration, the Parties agree to use commercially reasonable efforts to keep the court proceedings confidential, to the maximum extent permitted by law.

ARTICLE 12. REPRESENTATIONS AND WARRANTIES

12.1 Generating Company's Representations and Warranties

Generating Company makes the following representations and warranties:

(a) Generating Company is a limited liability company duly organized, validly existing and in good standing under the laws of the Commonwealth of Kentucky, and has the requisite power and authority to own its properties, to carry on its business as now being conducted, and to enter into this Agreement and the transactions contemplated herein and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Agreement, and is duly authorized to execute and deliver this Agreement and consummate the transactions contemplated herein.

(b) Generating Company is not prohibited from entering into this Agreement or discharging and performing all covenants and obligations on its part to be performed under and pursuant to this Agreement. The execution and delivery of this Agreement, the consummation of the transactions contemplated herein and the fulfillment of, and compliance with, the provisions of this Agreement will not conflict with, or constitute a breach of, or a default under, or require any consent, license or approval that has not been obtained pursuant to, any of the terms, conditions or provisions of any Applicable Laws and Regulations (as of the time it is required to be obtained to permit timely performance), any order, judgment, writ, injunction, decree, determination, award or

other instrument or legal requirement of any Governmental Authority, the certificate of formation of Generating Company or any contractual limitation, restriction or outstanding trust indenture, deed of trust, mortgage, loan agreement, lease, other evidence of indebtedness or any other agreement or instrument to which Generating Company is a party or by which it or any of its property is bound.

(c) Generating Company has taken all such actions as may be necessary or advisable and proper to authorize this Agreement, the execution and delivery hereof, and the consummation of transactions contemplated hereby.

(d) This Agreement is a legal, valid and binding obligation of Generating Company enforceable in accordance with its terms, except as limited by laws of general applicability limiting the enforcement of creditor's rights or by the exercise of judicial discretion in accordance with general principles of equity.

12.2 Company's Representations and Warranties

Company makes the following representation and warranties:

(a) Company is a corporation duly organized, validly existing under the laws of the Commonwealth of Kentucky, is in good standing under its certificate of incorporation and the laws of the Commonwealth of Kentucky and has the requisite power and authority to own its properties, to carry on its business as now being conducted, and to enter into this Agreement and the transactions contemplated herein and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Agreement, and is duly authorized to execute and deliver this Agreement and consummate the transactions contemplated herein.

(b) Company is not prohibited from entering into this Agreement or discharging and performing all covenants and obligations on its part to be performed under and pursuant to this Agreement. The execution and delivery of this Agreement, the consummation of the transactions contemplated herein and the fulfillment of, and compliance with, the provisions of this Agreement will not conflict with, or constitute a breach of, or a default under, or, except as set forth in Section 2.3 above, require any consent, license or approval that has not been obtained pursuant, to any of the terms, conditions or provisions of any Applicable Laws and Regulations, any order, judgment, writ, injunction, decree, determination, award or other instrument or legal requirement of any Governmental Authority, the certificate of incorporation and by-laws of Company or any contractual limitation, corporate restriction or outstanding trust indenture, deed of trust, mortgage, loan agreement, lease, other evidence of indebtedness or any other agreement or instrument to which Company is a party or by which it or any of its property is bound.

(c) Company has taken all such corporate actions as may be necessary or advisable and proper to authorize this Agreement, the execution and delivery hereof, and the consummation of transactions contemplated hereby.

(d) This Agreement is a legal, valid and binding obligation of Company enforceable in accordance with its terms, except as limited by laws of general applicability limiting the enforcement of creditor's rights or by the exercise of judicial discretion in accordance with general principles of equity.

ARTICLE 13. MISCELLANEOUS PROVISIONS

13.1 Severability

Subject to Section 13.17, if any provision or provisions of this Agreement shall be held invalid, illegal, or unenforceable, the validity, legality, and enforceability of the remaining provisions, or the application of such provision to persons or circumstances other than those as to which it is held to be invalid or unenforceable, shall in no way be affected or impaired thereby.

13.2 Modifications

No amendment or modification to this Agreement or waiver of a Party's rights hereunder shall be binding unless it shall be in writing and signed by the Party against which enforcement is sought. Except as provided for in Sections 13.15 and 13.16, this Agreement may be amended by and only by a written instrument duly executed by each of the Parties hereto.

13.3 Prior Agreement Superseded

This Agreement constitutes the entire agreement between the Parties relating to the subject matter hereof and its execution supersedes all previous agreements, discussions, communications and correspondence with respect to such subject matter. In the event of any inconsistency between this Agreement and the Appendices attached hereto and made a part hereof, this Agreement shall control.

13.4 Counterparts

This Agreement may be executed in any number of counterparts, and each executed counterpart shall have the same force and effect as an original instrument.

13.5 Further Assurances

The Parties agree (a) to furnish upon request to each other such further information, (b) to execute and deliver to each other such other documents, and (c) to do such other acts and things, all as the other Party may reasonably request for the purpose of carrying out the intent of this Agreement. Without limiting the generality of the foregoing, Company shall, at Generating Company's expense, as and when requested to do so by Generating Company at any time after the execution of this Agreement, prepare and provide such information in connection with this Agreement and/or the services to be provided by it under this Agreement (including resolutions, certificates, opinions of counsel or other documents relating to Company's corporate authorization to enter into this Agreement and to undertake the obligations set out herein) as may be reasonably required by any potential lender to Generating Company under a proposed loan agreement. Company shall cooperate with Generating Company in good faith, at Generating Company's expense, in order to satisfy on a mutually agreeable basis the requirements of Generating Company's financing arrangements, including where appropriate the making of amendments to the terms of this Agreement as may be required and are acceptable to Company.

13.6 Relationship of Parties/No Third-Party Beneficiaries

(a) Nothing in this Agreement shall be construed as creating any relationship between the Parties, including any partnership or joint venture, other than that of independent contractors.

(b) This Agreement is not intended to, and does not, confer upon any Person other than the Parties hereto and their respective successors and permitted assigns, any rights, benefits, or remedies hereunder.

13.7 Announcements

Except as otherwise required by law or the rules of the New York Stock Exchange, for so long as this Agreement is in effect, Company shall not, nor shall it permit any of its Affiliates to, issue or cause the publication of any press release or other public announcement with respect to the Interconnection contemplated by this Agreement; provided, however, that nothing herein shall prevent Company or its Affiliates from supplying such information or making such statements relating to such interconnection as may be required by any competent Governmental Authority or as Company or its Affiliates may consider necessary in order to satisfy its legal obligations, but Company or Affiliate shall thereafter furnish prompt notice thereof to the Generating Company.

13.8 Confidentiality

(a) The Parties agree that certain information relating to this Agreement and the Interconnection contemplated hereby that the Parties may exchange or have exchanged may be confidential, proprietary or of competitive value, and that all information designated as such shall be kept confidential. Such obligation of confidentiality shall also extend to all information, whether exchanged orally or in written or electronic form, of a commercial nature or which concerns the cost, design or operation of the Facility, Facility outages (scheduled or unscheduled), planned outages, and all information that is metered or telemetered with respect to the Facility and Interconnection Facilities. Other information considered by a Party to be confidential, proprietary or of a competitive value shall also be kept confidential so long as such information is marked "confidential" or "proprietary" at the time of disclosure, or if disclosed orally, the receiving Party confirms promptly in writing that such information is to be treated as confidential for purposes of this Agreement. Each Party shall only be permitted to disclose confidential information to its officers, directors, employees, agents and Affiliates who need to know such information for the purpose of implementing this Agreement (but only so long as the disclosure of such information to such Persons and the use of such information thereby complies with the requirement of applicable standards of conduct on file at the FERC), except that Generating Company may disclose such information to the officers, directors and employees of Generating Company who need to know such information for the purpose of implementing this Agreement, and Generating Company's lenders, consultants, contractors and potential and actual investors and owners. Each Party agrees to notify such Persons of the confidential nature of such information and to be responsible for any unauthorized disclosure of such information by such Persons. Without limiting the generality of the foregoing, the Company agrees not to disclose or permit the disclosure of such information to (i) Company's merchant function or any of its non-utility generator subsidiaries or Affiliates in

competition with Generating Company, or (ii) its officers, directors, employees, agents and consultants who are engaged in wholesale merchant functions that are in competition with Generating Company. Information shall not be deemed to be confidential if it (i) was in the public domain prior to the date hereof, (ii) becomes publicly available after the date hereof other than as a result of the unauthorized disclosure thereof by a Party or by an officer, director, employee, agent or Affiliate of a Party, (iii) becomes available to a Party on a non-confidential basis from a source other than the other Party if such source was not subject to any prohibition against transmitting the information or (iv) is required to be disclosed pursuant to any Applicable Laws and Regulations or pursuant to administrative or judicial process. Notwithstanding anything contained in this agreement, Confidential Information may be disclosed to transmission employees of Affected Systems, ECAR, NERC and any governmental, judicial or regulatory authority, requiring such Confidential Information, provided that, prior to disclosure, the disclosing party shall promptly inform the other party of the substance of any inquiries so that the other party may take whatever action it deems appropriate including intervention in any proceeding and the seeking of an injunction to prohibit such disclosure. The Parties agree to abide by the terms of this Section 13.8 for as long as this Agreement is in effect and for a period of two (2) years thereafter.

(b) Each Party may utilize information or documentation furnished by the disclosing Party and subject to Section 13.8(a) in any proceeding or dispute under Article 11 or in an administrative agency or court of competent jurisdiction addressing any dispute arising under this Agreement, subject to a confidentiality agreement with all participants (including, if applicable, any arbitrator) or a protective order.

13.9 Interpretation

The words "include" or "including" shall mean including without limitation based on the item or items listed. Except as otherwise stated, reference to Articles, Sections, Schedules, Appendices and Exhibits mean the Articles, Sections, Schedules, Appendices and Exhibits of this Agreement. The Appendices are hereby incorporated by reference into and shall be deemed a part of this Agreement. All indices, titles, subject headings, section titles and similar items in this Agreement are provided for the purpose of reference and convenience only and are not intended to be inclusive or definitive or to affect the meaning of the contents or scope of this Agreement.

13.10 Submission to Jurisdiction; Waivers

Subject to the provisions of Article 11, each of the Parties hereby:

(a) submits for itself and its property in any legal action or proceeding relating to this Agreement, or for recognition and enforcement of any judgment in respect thereof, to the general jurisdiction of the Courts of the Commonwealth of Kentucky, the courts of the United States for the Eastern District of Kentucky, and appellate courts from any thereof;

(b) consents and agrees that any such action or proceeding may be brought in and only in such courts and waives any objection that it may now or hereafter have to the venue of any such action or proceeding in any such court or that such action or proceeding was brought in an inconvenient court and agrees not to plead or claim the same;

(c) agrees that service of process in any such action or proceeding may be effected by mailing a copy thereof by registered or certified mail (or any substantially similar form of mail), postage prepaid, to the other Party at its address set forth in Article 7, or at such other address of which the other Party shall have been notified pursuant thereto;

(d) agrees that this Agreement is to be governed by federal law where applicable, and when not in conflict with or preempted by federal law, this Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky without regard to its conflict of laws principles; and

(e) agrees that nothing herein shall affect the right to effect service of process in any other manner permitted by law.

13.11 Successors, Assigns and Assignments

(a) This Agreement shall inure to the benefit of, and be binding upon, Company and Generating Company and their respective successors and permitted assigns.

(b) Company intends to transfer operational control of its transmission facilities to an RTO. Company expects that, if such a transfer occurs, it will be necessary for Generating Company to enter into an interconnection and/or operating agreement with such RTO. It is possible that the agreement with the RTO may take the form of an assignment by Company of this Agreement or portion of this Agreement to the RTO. If it is deemed necessary to maintain an agreement between Company and Generating Company, Company believes such agreement may be subject to approval by the RTO and regulatory authority having jurisdiction. The foregoing notwithstanding, nothing contained herein shall limit the Generating Company's right to defend this Agreement or to challenge such assignment, or the terms or conditions thereof.

Notwithstanding anything herein to the contrary, Company shall not assign or otherwise transfer all or any of its rights or obligations under this Agreement without the prior written consent of Generating Company, such consent not to be unreasonably withheld or delayed, except that Company may assign or transfer its rights and obligations under this Agreement without the prior written consent of Generating Company, if Company is not then in material default of this Agreement:

(i) where any such assignment or transfer is to an Affiliate of Company; provided, however, no such assignment or transfer pursuant to this Section 13.11(b) shall relieve Company of its obligations under this Agreement and no such assignment shall be to Company's merchant function or any of its non-utility generator subsidiaries or Affiliates in competition with Generating Company;

(ii) where such assignment or transfer is to the RTO that becomes responsible for the part of the Company Transmission System that includes the Company Interconnection Facilities and System Upgrades provided, however, that the FERC must approve such assignment or transfer; or

(iii) to any successor to or transferee of the direct or indirect ownership or operation of all or part of the Company System that includes the Company Interconnection Facilities and System Upgrades, provided, however, that the FERC must approve such assignment or transfer, and upon the assumption by any such permitted assignee of Company's rights, duties and obligations hereunder, Company shall be released and discharged therefrom.

(c) Notwithstanding anything herein to the contrary, Generating Company shall not assign or otherwise transfer all or any of its rights or obligations under this Agreement without the prior written consent of Company, such consent not to be unreasonably withheld or delayed, except that Generating Company may assign or transfer its rights and obligations under this Agreement without the prior written consent of Company, if Generating Company is not then in material default of this Agreement:

(i) where any such assignment or transfer is to an Affiliate of Generating Company; provided, however, no such assignment or transfer pursuant to this Section 13.11(c) shall relieve Generating Company of its obligations under this Agreement;

(ii) to any Person or entity (or any Affiliate thereof) that purchases or otherwise acquires, directly or indirectly, all or substantially all of the Facility; or

(iii) to any Project Financing Holder as security for amounts payable under any Project Financing.

(d) Except as specifically provided for in Articles 13.11 (b) and (c), any assignment or transfer of this Agreement or any rights, duties or interests hereunder by any Party without the written consent of the other Party shall be void and of no force or effect.

(e) Upon assignment of this Agreement pursuant to Sections 13.11 (b) (ii), (b) (iii), and (c) (ii), the assigning Party shall be relieved of any further obligations under this Agreement arising after the date of such assignment to the extent that such obligations are expressly assumed by the assignee and the non-assigning Party reasonably determines that the assignee is no less technically and financially capable of performing its obligations under the Agreement than was the assigning Party.

(f) Company agrees, if requested by Generating Company, to enter into an agreement (in a form reasonably acceptable to Company) with the Project Financing Holders, pursuant to which Company will acknowledge the creation of security over Generating Company's rights under this Agreement and agree that, upon breach of this Agreement or any loan documents by Generating Company or the insolvency of Generating Company, the Project Financing Holder shall:

(i) have the right within a reasonable period of time as specified therein to cure any breach of this Agreement complained of, provided the Project Financing Holder agrees to perform Generating Company's obligations under the Agreement during the cure period; and

(ii) have the right, upon payment of all outstanding amounts due and payable to Company, to assume all the rights and obligations of Generating Company under this Agreement.

13.12 Waivers

The failure of either Party to insist in any one or more instance upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights under this Agreement shall not be construed as a general waiver of any such provision or the relinquishment of any such right, but the same shall continue and remain in full force and effect, except with respect to the particular instance or instances.

13.13 Good Utility Practice

Company and Generating Company shall discharge any and all obligations under this Agreement in a prudent manner and in accordance with Good Utility Practice.

13.14 Cooperation

Each Party to this Agreement shall reasonably cooperate with the other and shall employ good faith as to all aspects relating to the performance of their respective obligations under this Agreement.

13.15 Company Section 205 Rights

Notwithstanding any other provisions in this Agreement to the contrary, Company may unilaterally make application to the FERC under Section 205 of the Federal Power Act and pursuant to the FERC's rules and regulations promulgated thereunder for a change in any rate, term, condition, charge, classification of service, rule or regulation under or related to this Agreement.

13.16 Generating Company Section 205 and 206 Rights

Notwithstanding any other provisions in this Agreement to the contrary, Generating Company may exercise its rights under Section 205 and 206 of the Federal Power Act and pursuant to the FERC's rules and regulations promulgated thereunder with respect to any rate, term, condition, charge, classification of service, rule or regulation for any services provided under this Agreement over which the FERC has jurisdiction.

13.17 Good Faith Negotiations Upon Occurrence of Certain Events

(a) If one of the following events (an "Event") take place, the Parties agree to re-negotiate in good faith an amendment or amendments to this Agreement or to take other appropriate action so as to put each Party in as nearly the same position as the Parties would have been had the Event not occurred:

(1) this Agreement is not approved or accepted for filing by the FERC without

modification or condition; or

(2) FERC, the United States Congress, any state or state regulatory commission, the RTO, or Company (upon approval of the FERC) implements any change in any law, regulation, rule or practice which materially affects or is reasonably expected to materially affect either Party's ability to perform under this Agreement.

(b) If, within sixty (60) calendar days after the occurrence of an Event, the Parties (1) are unable to reach agreement as to what, if any, amendments are necessary, and (2) fail to take other appropriate action so as to put each Party in as nearly the same position as the Parties would have been had the Event not occurred, the Parties may proceed under Article 11 to resolve any disputes related thereto.

(c) If either Party is unable to fully perform this Agreement due to the occurrence of an Event, the affected Party will not be deemed to be in default of its obligations under this Agreement to the extent that (1) the Party is unable to perform as a result of the Event and (2) the affected Party acts in accordance with its obligations under this Section 13.17.

13.18 EWG Status

Nothing in this Agreement shall require Generating Company to take any action that could result in its inability to obtain, or its loss of, status as an Exempt Wholesale Generator within the meaning of the Public Utility Holding Company Act of 1935, as amended.

[Remainder of Page Intentionally Left Blank—Next Page is Signature Page]

KENTUCKY POWER COMPANY
d/b/a AMERICAN ELECTRIC POWER

By: _____

Name: RP Verret

Title: Vice President

Date: 6/18/01

KENTUCKY MOUNTAIN POWER, LLC

By: _____

Name: MORTON SISSONEER

Title: Ex. V.P. & COO

Date: JUNE 8, 2001

APPENDIX A

FACILITY, INTERCONNECTION FACILITIES AND SYSTEM UPGRADES

1. **Name:** **Kentucky Mountain Power, LLC**

2. **Location:** **Knott County, Kentucky**

3. **Nominal Delivery Voltage:** 138 kV

4. **Metering Voltage:** 138 kV

5. **Normal Operation of Interconnection (check one):** Open ___ Closed X

6. **Control Area Interchange Point (check one):** Yes _X__ No ___

7. **One-Line Diagram Attached (check one):** Yes __X No ___

8. **Description of Facilities to be installed and owned by Generating Company:**

   Interconnection Facilities

   - An approximately 500 MW net capacity generating plant. The plant will consist of one 500 MW base loaded waste-coal fired unit.
   - Step-up transformer and associated equipment
   - One (1) 138 kV radial circuit and associated equipment

9. **Description of Facilities to be installed by Generating Company and Owned by Company* (See Figures 1 and 2)**

   - Talcum Switching Station ("Talcum Station"), with four (4) 138 kV circuit breakers, and associated equipment, to accommodate three (3) 138 kV line exits one each to Beaver Creek, Harbert, and Hazard stations as well as one (1) 138 kV circuit from the Facility.
   - Fiber optic static wire to interface with relaying and metering, to connect the Facility to Talcum Station.
   - On a new right-of-way, construct a double circuit 138 kV steel lattice tower line between the Talcum Station and Harbert Station – a distance of about 3.9 miles.
   - On a new right-of-way (parallel to the existing AEP right-of-way), construct a single

* To be transferred to Company prior energization in accordance with Section 3.6

circuit wood H-Frame 138 kV line between Consol. Coal Tap and Harbert stations – a distance of about 9.25 miles.

- On a new right-of-way, construct a single circuit wood H-Frame 138 kV line between Talcum and Hiner stations – a distance of about 9.75 miles.
- On a new right-of-way, construct a single circuit wood H-Frame 138 kV line between Hazard and Hiner stations – a distance of about 2.6 miles.

10. Description of Facilities to be installed and owned by Company (See Figures 1 and 2)

Interconnection Facilities

- At the Talcum Station install 138 kV metering, all line potential and carrier relaying equipment for the three (3) 138 kV line exits, as well as panels, data acquisition and fault recording equipment inside the control house provided by the Generating Company.
- At the Beaver Creek Station install a new 138 kV circuit breaker, disconnect switches, bus work, structural steel, control cable, relaying, grounding and associated equipment.
- At the Hazard Station install a new 138 kV circuit breaker, disconnect switches, bus work, structural steel, control cable, relaying, grounding and associated equipment.
- Expand the Harbert Station to accommodate the termination of a new 138 kV line to the Talcum Station. Install a 138 kV steel bay, foundations, grounding, one (1) 138 kV circuit breaker and associated line, bus and breaker by-pass disconnect switches, one (1) 138 kV gang operated air break switch and carrier equipment, 138 kV bus work, relaying, control cables, grounding and associated equipment.
- Remove the 9.97-mile section of the existing wood H-frame 138 kV line between the Beaver Creek Station and the Consol Tap. On the existing line right-of-way construct a new double circuit 138 kV steel lattice tower line.
- Remove an existing 2.25 miles of the existing 69 kV wood H-frame line between the Hazard and Bulan stations. On the existing line right-of-way construct a new double circuit lattice steel tower line. Right outside of Hazard Station, upgrade 0.7 miles of Beaver Creek-Hazard 138 kV line. In addition, Construct approximately 0.5 mile of a new, single circuit, wood H-frame line directly behind the existing Hazard Station and on a new right-of-way parallel to the existing Hazard-Beaver Creek 138 kV line. Utilize one set of conductors on the double circuit tower line to create the Hazard-Hiner-Talcum 138 kV circuit and the other to re-establish the Hazard-Bulan 69 kV line.

System Upgrades

- Construct a new Hiner 138/ 69 kV station located at a site provided by the Generating Company. The new station will connect to the new Talcum-Hazard 138 kV line. Install a 138/69/12kV autotransformer, 138 & 69 kV bus work, three (3) 69 kV circuit breakers and associated line and bus disconnect switches, relaying and associated control cable, 138 & 69 kV structural steel, foundation, grounding, site preparation, control building and associated equipment. Connect the Bonnyman and Hazard 69 kV lines to the new 69

kV bus.

- Hiner 69 kV loop: On a new right-of-way construct a single circuit - a distance of about 0.2 mile to loop Bonnyman and Hazard 69 kV lines in-and-out of the Hiner Station.

11. Cost Responsibilities of Each Party:

Generating Company shall install and own the facilities described in Paragraph 8 above at Generating Company Cost. Generating Company shall install the facilities described in Paragraph 9, which will be owned by Company, at Generating Company cost.

Company shall install and own the Interconnection Facilities and System Upgrades described in Item 10 above. Generating Company shall reimburse Company for these facilities as provided for in Subsections 3.7 (a) and (b), subject to the refund provided in Section 3.7 (f) for the System Upgrades required, to eliminate thermal overloads.

12. <u>Interconnection Point</u>

After the transfer of ownership of Talcum Station and the three (3) 138 kV line exits as provided in Section 3.6, the Interconnection Point shall be the disconnect switches where the 138 kV circuits from the Facility attach to the Talcum Station ring bus.

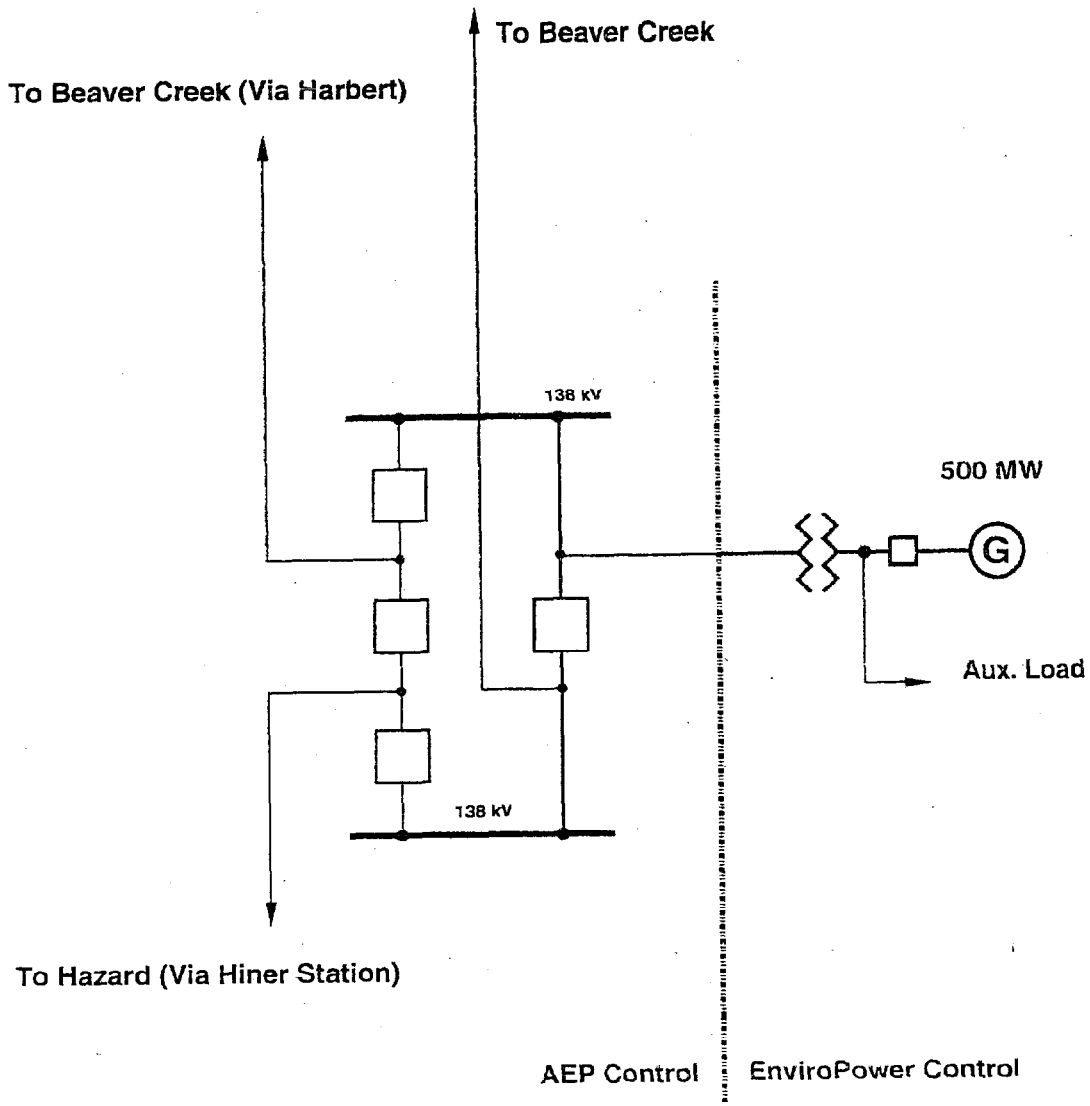


FIGURE 1 Talcum Switching Station

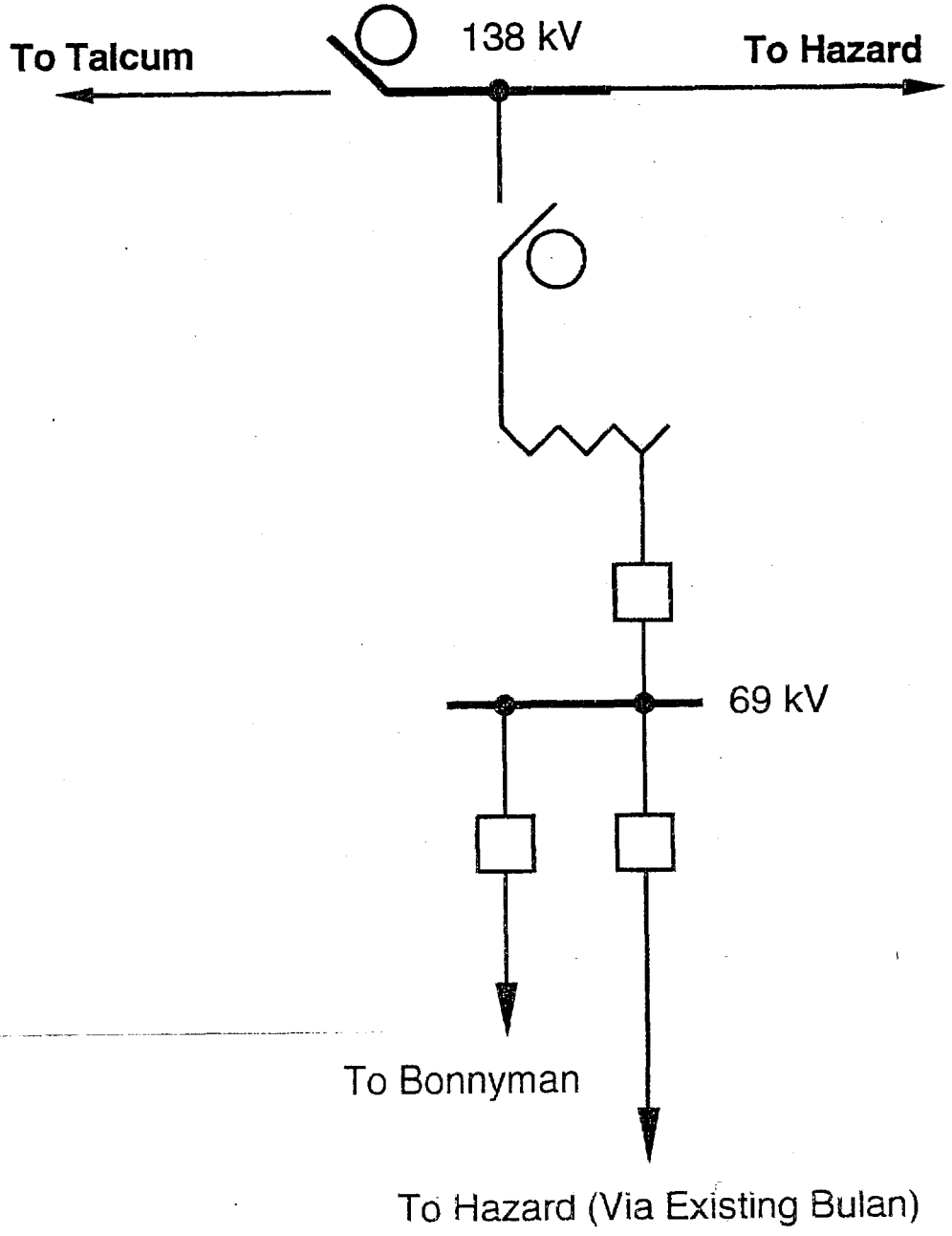


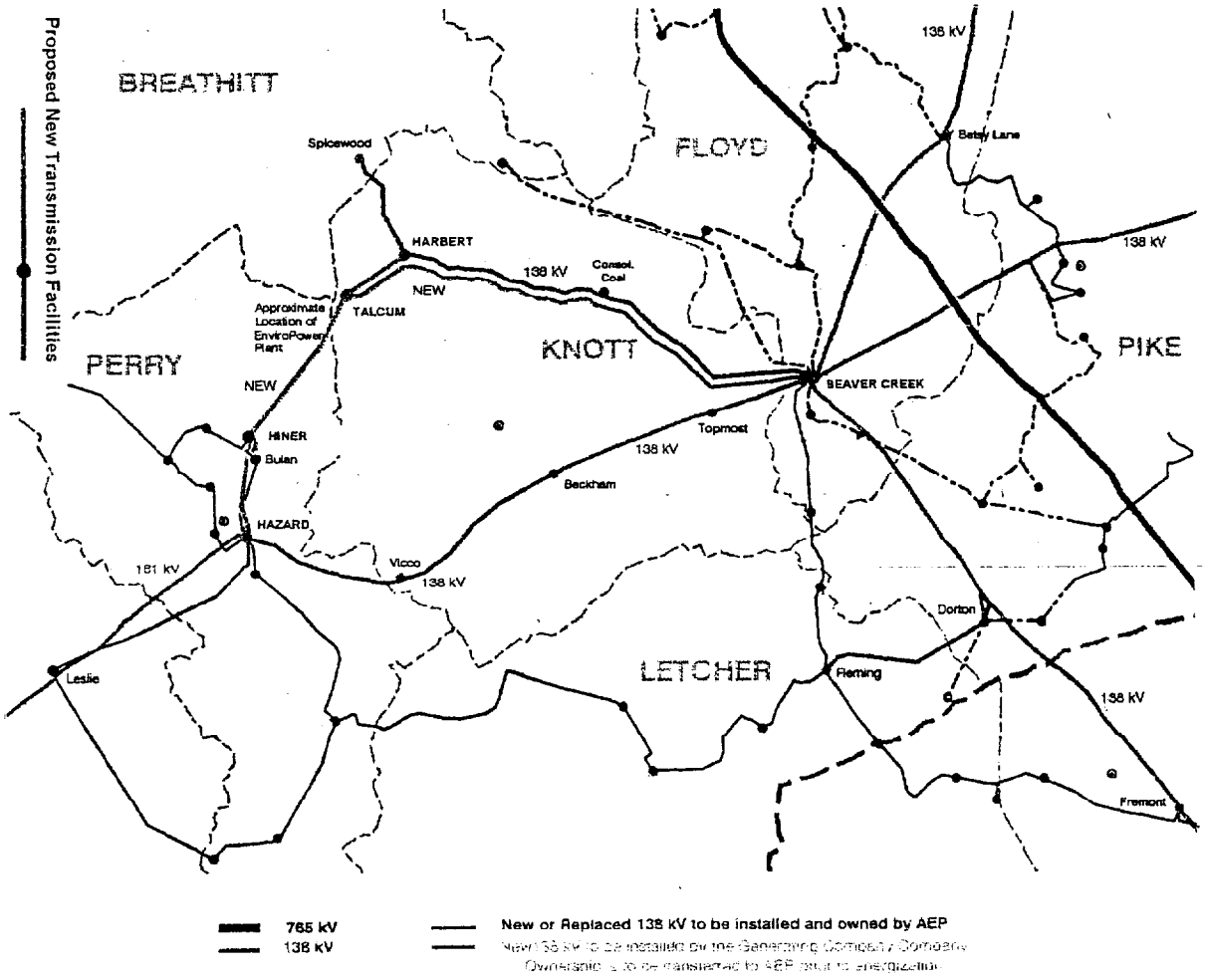
FIGURE 2 **Proposed Switching Configuration – Hiner 138/69 kV Switching Station**

APPENDIX B

DESCRIPTION OF THE FACILITY SITE

1. Facility Site Description:

Generating Company's EnviroPower, LLC Facility will be constructed on a site in Knott County, Kentucky approximately 3.9 miles south west of Company's Harbert Station. Approximate location of the proposed plant site and the interconnection transmission lines are shown below:



APPENDIX C

DESCRIPTION OF METERING EQUIPMENT

1. Metering Equipment Description:

The metering point and point of delivery for this interconnection shall be at the termination point of the 138 kV circuit from the Facility in the Talcum Station, as indicated on Figure 1 to Appendix A. Metering shall be at 138 kV, and shall be designed and installed according to provisions specified in Section 4.16 of this Agreement.

Equipment to be Installed:

- CTs and VTs
- KWh Meters
- One (1) dial-up phone line for remote data retrieval
- One RTU and leased phone line

APPENDIX D

LIST OF PROTECTIVE EQUIPMENT

Protective Equipment and Schemes:

Company and Generating Company agree to coordinate design of protective equipment.

1. Line Protection
   (a.) The IPP-Harbert -Beaver Creek line will employ the following:
   - Primary: A carrier blocking scheme using a GE type ALPSDA35 relay and Pulsar TC-10B carrier current set.
   - Backup: Phase step distance and ground overcurrent using Schweitzer type SEL321 and GE type JBCG51M relays.

   This line will also utilize a transfer trip scheme (using Pulsar TCF-10B transmitters at the Talcum and Beaver Creek stations and a Pulsar TCF-10B receiver at Harbert Station) to trip out Harbert Station whenever one of the remote ends of the line trips out.

   (b.) The Talcum-Beaver Creek line will have the following protection:
   - Primary: A carrier blocking scheme using a GE type ALPSDA35 relay and Pulsar TC-10B carrier current set.
   - Backup: Phase step distance and ground overcurrent using Schweitzer type SEL321 and GE type JBCG51M relays.

   (c.) The Talcum-Hiner-Hazard line will use the following:
   - Primary: A weak feed carrier scheme using a GE type D60 relay and a Pulsar TC-10B carrier current set.
   - Backup: Phase step distance and ground overcurrent using Schweitzer type SEL321 and GE type JBCG51M relays.

   The remote ends of each of these lines will have compatible protective relays. The tapped stations (Harbert and Hiner) will have slightly different protective schemes.

2. 138kV Differential
   The 138kV leads between the GSU breaker and two of the Talcum station breakers are protected as follows:
   - Primary: A current differential scheme utilizing an RFL Model 9300 Charge Comparison relay and fiber optic communication.
   - Backup: Backup: Schweitzer type SEL321 (using fiber optic communication) and GE type JBCG53M relays.

3. Breaker Failure

To protect in case of breaker failure, each of the four circuit breakers will utilize a scheme consisting of SAM201 and SBC231 relays.

4. Control

   Each of the four circuit breakers will have automatic, manual, and remote supervisory control.

APPENDIX E

PROJECT COST PROJECTIONS♦

1. Project Cost Projections of Company Owned Facilities (In 2000 Dollars) as described in Appendix A:

Interconnection Facilities

At the Talcum Station install 138 kV metering, all line potential and carrier relaying equipment for the three (3) 138 kV line exits, as well as panels, data acquisition and fault recording equipment inside the control house provided by the Generating Company.

Estimated Cost $ 739,000

At the Beaver Creek Station install a new 138 kV circuit breaker, disconnect switches, bus work, structural steel, control cable, relaying, grounding and associated equipment.

Estimated Cost $ 714,000

At the Hazard Station install a new 138 kV circuit breaker, disconnect switches, bus work, structural steel, control cable, relaying, grounding and associated equipment.

Estimated Cost $ 513,000

Expand the Harbert Station to accommodate the termination of a new 138 kV line to the Talcum Station. Install a 138 kV steel bay, foundations, grounding, one (1) 138 kV circuit breaker and associated line, bus and breaker by-pass disconnect switches, one (1) 138 kV gang operated air break switch and carrier equipment, 138 kV bus work, relaying, control cables, grounding and associated equipment.

Estimated Cost $ 1,053,000

On a new right-of-way, construct a double circuit 138 kV steel lattice tower line between the Talcum Station and Harbert Station – a distance of about 3.9 miles. This section of the line is to be engineered and constructed by the Generation Company. AEP will assist in right-of-way issues, inspect the transmission line during construction and review the engineering and design drawings.

Estimated Cost $ 201,000

Remove the 9.97-mile section of the existing wood H-frame 138 kV line between the Beaver Creek Station and the Consol. Coal Tap. On the existing

♦ Delay in service date from June 1, 2003 to June 1, 2004 will cause these estimates to change. The new estimates are not presently available.

line right-of-way construct a new double circuit 138 kV steel lattice tower line.

Estimated Cost $ 8,100,000

On a new right-of-way (parallel to the existing AEP right-of-way), construct a single circuit wood H-Frame 138 kV line between Consol. Coal Tap and Harbert Station – a distance of about 9.25 miles. This section of the line is to be engineered and constructed by the Generation Company. AEP will assist in right-of-way issues, inspect the transmission line during construction and review the engineering and design drawings.

Estimated Cost $ 370,000

On a new right-of-way, construct a single circuit wood H-Frame 138 kV line between Talcum and Hiner stations – a distance of about 9.75 miles. This section of the line is to be engineered and constructed by the Generating Company. AEP will assist in right-of-way issues, inspect the transmission line during construction and review the engineering and design drawings.

Estimated Cost $ 391,000

On a new right-of-way, construct a single circuit wood H-Frame 138 kV line between Hazard and Hiner stations – a distance of about 2.6 miles. This section of the line is to be engineered and constructed by the Generating Company. AEP will assist in right-of-way issues, inspect the transmission line during construction and review the engineering and design drawings.

Estimated Cost $ 106,000

Remove an existing 2.25 miles of the existing 69 kV wood H-frame line between the Hazard and Bulan stations. On the existing line right-of-way construct a new double circuit lattice steel tower line. Right outside of Hazard Station, upgrade 0.7 miles of Beaver Creek-Hazard 138 kV line. In addition, construct approximately 0.5 mile of a new, single circuit, wood H-frame line directly behind the existing Hazard Station and on a new right-of-way parallel to the existing Hazard-Beaver Creek 138 kV line. Utilize one set of conductors on the double circuit tower line to create the Hazard-Hiner-Talcum 138 kV circuit and the other to re-establish the Hazard-Bulan 69 kV line.

Estimated Cost $ 2,836,000

Interconnection Facility Cost **$ 15,023,000**

System Upgrades

Construct a new Hiner 138/ 69 kV station located at a site provided by the Generating Company. The new station will connect to the new Talcum-Hazard 138 kV Line. Install a 138/69/12kV autotransformer, 138 & 69 kV bus work, three (3) 69 kV circuit breakers and associated line and bus disconnect switches, relaying and associated control cable, 138 & 69 kV structural steel, foundation, grounding, site preparation, control building and associated

equipment. Connect the Bonnyman and Hazard 69 kV lines to the new 69 kV bus.

Estimated Cost $ 2,217,000

Hiner 69 kV loop: On a new right-of-way construct a single circuit - a distance of about 0.2 mile to loop Bonnyman and Hazard 69 kV lines in-and-out of the Hiner Station.

Estimated Cost $ 133,400

System Upgrade Cost	**$2,350,400**
Total Project Estimated Cost	**$17,373,400**
System Upgrades Cost Qualify for Transmission System Credit	**$2,350,400**

1. **Proposed Payment Schedule: ♦**

Payment Due Date Amount

Month/Year	Amount
April 15, 2001	$0
May 15, 2001	$0
June 15, 2001	$200,000
July 15, 2001	$171,000
August 15, 2001	$346,000
September 15, 2001	$550,000
October 15, 2001	$792,000
November 15, 2001	$723,000
December 15, 2001	$777,000
January 15, 2002	$656,000
February 15, 2002	$729,000
March 15, 2002	$959,000
April 15, 2002	$853,000
May 15, 2002	$1,120,000
June 15, 2002	$242,000
July 15, 2002	$270,000
August 15, 2002	$777,000
September 15, 2002	$688,000
October 15, 2002	$574,000
November 15, 2002	$854,400
December 15, 2002	$750,400
January 15, 2003	$727,400
February 15, 2003	$713,400
March 15, 2003	$712,400
April 15, 2003	$712,400
May 15, 2003	$712,400
June 15, 2003	$711,400
July 15, 2003	$711,400
August 15, 2003	$252,400
Total	**$17,285,000**

♦ Delay in service date from June 1, 2003 to June 1, 2004 will cause these estimates to change. The new estimates are not presently available.

APPENDIX F

PROJECT MILESTONES

1. **Project Schedule Milestones:**

   Significant project milestones of key events and interfaces between Company and Generating Company facilities are shown below. This schedule is contingent upon 1) no significant deviations in the scope of work described in Appendix A; and 2) no requests from Generating Company for delays in the performance of such work.

Interconnection Facilities	**Project Milestones**
Generating Plant Construction Start	October 1, 2001
Generator Interconnection Facilities Complete	March 5, 2004
Company Interconnection Facilities Complete	March 5, 2004
Receive Back Feed Power	April 1, 2003
Begin Generator Testing	March 5, 2004
Commercial Operation Date Declared	June 1, 2004
System Upgrades	
All System Upgrades Complete	February 1, 2004

APPENDIX G

AMERICAN ELECTRIC POWER
DESCRIPTION AND FORMULA RATE FOR FACILITY CONSTRUCTION, OPERATION AND MAINTENANCE CHARGES

General

The formula rate contained in this document applies when construction, operation and/or maintenance activities are performed for non-AEP Parties, under circumstances precluding the charging of a profit margin. The American Electric Power Companies1 (AEP) will recover costs for such operation and maintenance activities through bills which reflect the cost AEP has incurred in six categories, namely: 1) materials, 2) labor, 3) equipment, 4) outside services, 5) engineering and administration, and 6) taxes.

AEP charges its costs for construction, operation and maintenance activities on behalf of others to special work orders which accumulate the costs to be billed. As a result of these accounting procedures, the charges billed to non-AEP Parties are not reflected in AEP's transmission, operation, maintenance, or plant accounts.

However, the costs which AEP incurs and bills in such cases are the kinds of costs which would be assignable to the following the FERC Uniform System of Accounts if they were incurred in connection with AEP's owned property:

Transmission Operation and Maintenance Expenses

560 - Operation Supervision and Engineering
562 - Station Expenses
563 - Overhead Line Expenses
566 - Miscellaneous Transmission Expenses
568 - Maintenance Supervision and Engineering
569 - Maintenance of Structures
570 - Maintenance of Station Equipment
571 - Maintenance of Overhead Lines

Construction - Transmission Plant Costs

352 - Structures and Improvements
353 - Station Equipment
397 - Communications Equipment

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1 Appalacian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, and Wheeling Power Company, all of which are now doing business as AEP.

108 - Accumulated Provision for Depreciation

All Activities - Administrative, General and Other Expenses

920 - Administrative and General Salaries
408 - Taxes Other Than Income Taxes

The charges billed for maintenance in each of the previously identified six categories are discussed in order below.

1. Materials

Materials charges are made in four sub-categories: 1) direct material costs (DM), which may be delivered direct from vendors to the job site (VDM) or issued from company stores (SDM), 2) purchasing expenses (PE), 3) stores expenses (SE), and 4) exempt minor materials (EM). The latter three costs are charged using material loading rates.
Direct material costs are vendor invoiced charges for items, other than exempt minor materials, which are used for Generating Company maintenance. Purchasing expenses are material overhead costs incurred in selecting and ordering materials. Stores expenses are the costs of performing the stores function. Exempt minor materials are low cost expendable materials, supplies, and hand tools used in Transmission and Distribution construction, maintenance, or operations.

Material items that are delivered direct from the vendor to the job site (VDM) are charged at cost, plus a purchasing loading rate (plr) of 1%, up to a maximum of $150 per invoice. Materials issued from company storerooms for individual work orders (SDM) are charged at cost, plus a combined stores/purchasing loading rate (slr) and an exempt minor materials loading rate (mlr).

Projected annual stores and exempt minor materials costs are divided by projected annual costs of stores issued materials (SDM + EM) to determine projected stores and exempt minor materials loading rates. The rates are reviewed monthly and adjusted as required in order to clear current year stores expense and exempt minor materials costs to the accounts charged with the materials issued.

In symbolic format, the charges for materials are calculated as follows:

$$M = DM + [VDM \times (plr), \text{ up to } \$150/bill] + SDM \times (1 + (mlr)) \times (slr)$$

2. Labor

Labor is charged to Generating Company maintenance work orders in three parts - direct labor (DL), fringe labor costs (FL), and miscellaneous out-of-pocket employee expenses (ME). Direct labor charges reflect the actual work hours (whr) and basic hourly rates of pay (hrp) for the personnel that are directly involved; i.e., DL = (whr) x (hrp). Fringe labor costs for vacation, holiday, sick leave, and other paid time away, plus payroll taxes, insurance, workers' compensation, pension, and savings plan expenses are recovered through labor loading rates (llr) which are developed by dividing fringe labor costs by earned payroll. The labor loading rates are reviewed monthly and adjusted, as needed, to clear fringe labor costs yearly.

In symbolic format, the charges for labor are calculated as follows:

$$L = DL + FL + ME = DL \times (1 + llr) + ME$$

3. Equipment

Equipment (E), primarily vehicles, used in the performance of maintenance is charged based on actual hours of usage (aeu) and hourly equipment cost rates (ecr). Cost of purchasing, leasing, and operating equipment, by equipment class, are collected in clearing accounts and divided by total hours of usage by class to develop the equipment cost rates. Equipment cost rates are reviewed quarterly and adjusted, as needed, to clear the cost of equipment.

In symbolic format, equipment charges are calculated as follows:

$$E = (aeu) \times (ecr)$$

4. Outside Services

The actual amount of invoices received from vendors for restorative and other maintenance services (S) performed by third parties for AEP on behalf of the Generating Company are charged in maintenance billings by AEP.

5. Engineering and Administration

Engineering and administrative overhead loading rates are used to allocate engineering, supervision, and administrative overhead costs not assigned to specific project work orders. AEP uses separate loading rates for AEP Service Corporation engineering ($SCE_{t\&d}$) and operating company construction overhead costs (CCO). A complete description of the costs recovered through the loading rates is provided in Note 1 to page 218 of each AEP Company's FERC Form-1 Report. A copy of that note is included as the last page in this Appendix G.

As the description of Construction Overhead Procedure shows, the CCO and $SCE_{t\&d}$ loading rates (cclr and $sclr_{t\&d}$, respectively) are derived in the normal course of business for the purpose of capturing the portions of AEP Service Corporation engineering and operating company construction overhead costs which are incurred in connection with transmission and distribution (T&D) plan construction. The cclr and $sclr_{t\&d}$ are reviewed monthly and updated, as needed, to clear the respective engineering and administrative overhead costs yearly.

In symbolic form, the engineering and administration overhead costs (O) are calculated as follows:

$$O = CCO + SCE_{t\&d}$$

Where CCO $= (M + L + E + S) \times cclr$
and $SCE_{t\&d}$ $= (M + L + E + S + CCO) \times sclr_{t\&d}$

6. Taxes

The total taxes charged to the Generating Company will be the sum of receipts and other taxes incurred.

i.e.: $T = RT + OT$

Summary of Charges

The total Operation and Maintenance (O&M) charges under this Agreement in symbolic form are:

$O\&M = M + L + E + S + O + T$

Where M, L, E, S, O, and T are calculated as explained in Sections 1 through 6 above, respectively.

APPENDIX G

AMERICAN ELECTRIC POWER
DESCRIPTION AND FORMULA RATE FOR FACILITY CONSTRUCTION, OPERATION AND MAINTENANCE CHARGES

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However, the costs which AEP incurs and bills in such cases are the kinds of costs which would be assignable to the following the FERC Uniform System of Accounts if they were incurred in connection with AEP's owned property:

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570 - Maintenance of Station Equipment
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Materials charges are made in four sub-categories: 1) direct material costs (DM), which may be delivered direct from vendors to the job site (VDM) or issued from company stores (SDM), 2) purchasing expenses (PE), 3) stores expenses (SE), and 4) exempt minor materials (EM). The latter three costs are charged using material loading rates.
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Projected annual stores and exempt minor materials costs are divided by projected annual costs of stores issued materials (SDM + EM) to determine projected stores and exempt minor materials loading rates. The rates are reviewed monthly and adjusted as required in order to clear current year stores expense and exempt minor materials costs to the accounts charged with the materials issued.

In symbolic format, the charges for materials are calculated as follows:

$$M = DM + [VDM \times (plr), \text{ up to } \$150/bill] + SDM \times (1 + (mlr)) \times (slr)$$

2. Labor

Labor is charged to Generating Company maintenance work orders in three parts - direct labor (DL), fringe labor costs (FL), and miscellaneous out-of-pocket employee expenses (ME). Direct labor charges reflect the actual work hours (whr) and basic hourly rates of pay (hrp) for the personnel that are directly involved; i.e., DL = (whr) x (hrp). Fringe labor costs for vacation, holiday, sick leave, and other paid time away, plus payroll taxes, insurance, workers' compensation, pension, and savings plan expenses are recovered through labor loading rates (llr) which are developed by dividing fringe labor costs by earned payroll. The labor loading rates are reviewed monthly and adjusted, as needed, to clear fringe labor costs yearly.

In symbolic format, the charges for labor are calculated as follows:

$$L = DL + FL + ME = DL \times (1 + llr) + ME$$

3. Equipment

Equipment (E), primarily vehicles, used in the performance of maintenance is charged based on actual hours of usage (aeu) and hourly equipment cost rates (ecr). Cost of purchasing, leasing, and operating equipment, by equipment class, are collected in clearing accounts and divided by total hours of usage by class to develop the equipment cost rates. Equipment cost rates are reviewed quarterly and adjusted, as needed, to clear the cost of equipment.

In symbolic format, equipment charges are calculated as follows:

$$E = (aeu) \times (ecr)$$

4. Outside Services

The actual amount of invoices received from vendors for restorative and other maintenance services (S) performed by third parties for AEP on behalf of the Generating Company are charged in maintenance billings by AEP.

5. Engineering and Administration

Engineering and administrative overhead loading rates are used to allocate engineering, supervision, and administrative overhead costs not assigned to specific project work orders. AEP uses separate loading rates for AEP Service Corporation engineering ($SCE_{t\&d}$) and operating company construction overhead costs (CCO). A complete description of the costs recovered through the loading rates is provided in Note 1 to page 218 of each AEP Company's FERC Form-1 Report. A copy of that note is included as the last page in this Appendix G.

As the description of Construction Overhead Procedure shows, the CCO and $SCE_{t\&d}$ loading rates (cclr and $sclr_{t\&d}$, respectively) are derived in the normal course of business for the purpose of capturing the portions of AEP Service Corporation engineering and operating company construction overhead costs which are incurred in connection with transmission and distribution (T&D) plan construction. The cclr and $sclr_{t\&d}$ are reviewed monthly and updated, as needed, to clear the respective engineering and administrative overhead costs yearly.

In symbolic form, the engineering and administration overhead costs (O) are calculated as follows:

$$O = CCO + SCE_{t\&d}$$

Where CCO $= (M + L + E + S) \times cclr$
and $SCE_{t\&d}$ $= (M + L + E + S + CCO) \times sclr_{t\&d}$

6. Taxes

The total taxes charged to the Generating Company will be the sum of receipts and other taxes incurred.

i.e.: $T = RT + OT$

Summary of Charges

The total Operation and Maintenance (O&M) charges under this Agreement in symbolic form are:

$O\&M = M + L + E + S + O + T$

Where M, L, E, S, O, and T are calculated as explained in Sections 1 through 6 above, respectively.

Kentucky Power Company FERC FORM 1 12/31/95 < Page 218 >.

General Description of Construction overhead Procedure:

A. Engineering and Supervision (American Electric Power Service Corporation)

(a) Overheads "Engineering, Technical and Drafting Services" are engineering services performed by the Engineering Department of American Electric Power Service Corporation (AEPSC).

(b) In accordance with provisions of a service agreement between American Electric Power Service Corporation (AEPSC) and the respondent, approved by the Securities and Exchange Commission February 19, 1981, salaries, expenses and overheads of AEPSC personnel directly relating to construction activities are collected by mean of a work order system and billed to the respondent as:
(1) Identifiable costs, generally relating to major construction projects, for which timekeeping and other specific cost identification is economically feasible, and
(2) Non-identifiable costs, generally relating to numerous small construction projects, for which timekeeping and other specific cost identification are not economically feasible.

(c) Charges billed by AEPSC as (b)(1) above are charged directly by respondent to the applicable specific construction projects. Charges billed by AEPSC as (b)(2) above are allocated to all applicable construction projects proportionate to the direct costs charged to such projects.

(d) A uniform rate is applied to all subject construction expenditures.

(e) See (d) above.

(f) See (c) above.

B. Company Construction Overheads in its own Operating Division, Engineering Department and System Office Departments

(a) Charges representing cost of Company's Engineering Supervision and related drafting and technical work.

(b) On basis of time and work studies.

(c) Spread to accounts in proportion to dollar value on construction for those classes of construction accounts to which these overheads are considered to be applicable.

(d) For each class of overheads the same percentage is used for all types of construction.

(e) Not applicable. See (d) above.

(f) Shown on page 217.

C. Company Construction Overheads in Administrative and General Departments

(a) Proportion of Administrative and General Expenses representing salaries and expenses of General Office and Managerial employees applicable to construction.

(b) Partly on basis of time and work studies.

(c) Spread to accounts in proportion to dollar value of construction for those classes of construction accounts to which these overheads are considered to be applicable.

(d) For each class of overheads the same percentage is used for all types of construction.

(e) Not applicable. See (d) above.
(f) See note (c) above

Page 218 Footnote.1

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

American Electric Power Service Corporation) Docket No. ER_____

NOTICE OF FILING

Take notice that on _____, 2001, the American Electric Power Service Corporation (AEPSC) tendered for filing an executed Interconnection and Operation Agreement between Kentucky Power Company and Kentucky Mountain Power, L.L.C. The agreement is pursuant to the AEP Companies' Open Access Transmission Service Tariff (OATT) that has been designated as the Operating Companies of the American Electric Power System FERC Electric Tariff Revised Volume No. 6, effective June 15, 2000.

AEP requests an effective date of August 31, 2001. Copies of AEP's filing have been served upon the Kentucky Public Service Commission.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 C.F.R §§ 385.211 and 385.214). All such motions or protests should be filed on or before _____, 2001. Protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection. This filing may also be viewed on the Internet at http://www.ferc.fed.us/online/rims.htm (call 202-208-2222 for assistance).

David P. Boergers

Secretary

Facilities Study
to Connect
EnviroPower's
New Generators
to the AEP Transmission Network

Knott County, Kentucky
(AEP IPP Project # 34)

Transmission Planning

October 2000

AEP: America's Energy Partner℠

1. INTRODUCTION

EnviroPower, LLC (EnviroPower) by letter dated April 4, 2000, requested American Electric Power (AEP) to conduct a limited scope power flow analysis to evaluate the feasibility of connecting a new merchant generating plant to the AEP transmission system in the Beaver Creek-Hazard Area. EnviroPower plans to install a 500 MW plant facility in Knott County, Kentucky. The plant will consist of one 500 MW base loaded waste-coal fired unit. The closest 138 kV transmission facility to the plant site, as shown in Figure 1, is the Harbert Station on the Beaver Creek-Spicewood 138 kV line. The line is about 5 miles away from the plant site. The Beaver Creek and Hazard 138 kV stations are at a distance of about 22 and 14 miles, respectively. The expected service date for the project is June 1, 2003.

The load flow and stability analyses, conducted earlier, are summarized in two reports issued in August 2000. As indicated in the load flow report, 138 kV lines and 138/subtransmission station facilities experience increased loadings as a result of connecting EnviroPower's 500 MW generating facility to the AEP System. New transformer and/or system re-configuration would be required to mitigate those problems.

This facility connection study defines the scope of the facilities necessary to integrate the proposed 500 MW generating plant. It addresses system improvements required to mitigate the thermal performance issues resulting from the generation addition. The details of facilities required to accommodate this generation are identified in this report.

AEP has an existing 161 kV interconnection with Tennessee Valley Authority (TVA) in the area. In addition, several low voltage connections north of the Beaver Creek Station exist between AEP and East Kentucky Power Cooperative (EKPC). Therefore, AEP will share this report with TVA and EKPC for review of the impact on their systems.

This analysis was conducted for interconnection feasibility purposes only. A complete System Impact Study will be required should transmission service be requested. Transmission Service Requests (TSR) must be made to deliver the output of the merchant plant to specific points of delivery and these TSRs must be made in accordance with the AEP Open Access Transmission Tariff (OATT). This study addresses only the feasibility of integrating the merchant plant to the AEP system and does not address the availability of transmission capability to support transmission services to deliver the output of the merchant plant to specific points of delivery.

2. OVERVIEW OF POWER SUPPLY FACILITIES NEAR THE PROPOSED SITES

The Beaver Creek - Hazard area, the eastern most portion of the Commonwealth of Kentucky, is located within AEP's Roanoke Transmission Region. As shown in Figure 1, the transmission facility closest to the plant site is the Harbert Station on the Beaver Creek-Spicewood 138 kV line. This line, which is radially connected to the Beaver Creek Station, serves several coal-mining customer loads. The line capacity is limited by the 795 kcm ACSR conductor (Summer normal and emergency ratings 258/345 MVA). The Hazard Station, located at approximately 14 miles south of the proposed plant site, connects to the rest of the AEP transmission system via

two transmission lines. These lines terminate at the Beaver Creek 138 kV Station and the Leslie 161 kV Station (connected via three single-phase 45 MVA, 161/138 kV, transformer units). The combined summer normal and emergency thermal capabilities of these two outlets are 327 and 396 MVA, respectively. Hazard Station also serves the local area sub-transmission load via two 138/69 kV transformers. The Beaver Creek Station, a major switching station in the area is about 22 miles away from the EnviroPower's proposed plant site. The ± 125 MVAr Static VAR Compensator and four (4) 138 kV shunt capacitors at the Beaver Creek Station together with capacitor banks at several other stations provide reactive power and voltage support in the area. Stations on the 74-mile long Beaver Creek-Hazard-Pineville line serve a major portion of the area load.

Phase voltage unbalance exists on the AEP transmission system in the Beaver Creek - Hazard area. The unbalance is affected by changes in system conditions, and consequently varies over time. Consequently, it is recommended that the EnviroPower plant equipment be rated accordingly.

3. SCOPE OF STUDY

The scope of this study is to determine the facilities required for integrating EnviroPower's proposed Knott County Generating Plant into the existing AEP System. This includes facilities necessary to connect the plant into the existing AEP Transmission System in the Beaver Creek - Hazard area and address thermal overload problems and other concerns which have been identified in phase 1 and phase 2 of the System Impact Study. Only one option to integrate the Knott County Project was considered for this phase of the study, which is as follows:

- The 500 MW EnviroPower Generating Plant connected to a new 138 kV switching station located at the plant site (Figure 2):
  - ❖ Integrate the new switching station into the AEP transmission system via three new 138 kV lines – two to Beaver Creek Station (one direct and one via Harbert), and one to Hazard Station via a new Bulan 138/69 kV Station (Figure 3).
  - ❖ Construct a new 138/69 kV station at a site provided by EnviroPower – approximately 2-miles north of the existing Bulan 69 kV Station.

The cost estimates for facilities required to integrate EnviroPower's proposed generating plant into the existing AEP System, including facilities necessary to address thermal overload problems, circuit breaker duty and transmission system stability concerns are broken down into two groups:

- Direct Interconnect costs: facilities **required** to connect the proposed generating plant;
- Transmission System Upgrades: AEP System facility upgrades or additions, which are required to eliminate system contingency thermal overloads resulting from the addition of the proposed generating plant.

The direct interconnection facilities include the lines, metering, circuit breakers and associated equipment required to connect EnviroPower's proposed generating plant. Also included are replacement or addition of facilities to reduce thermal overloads during normal peak load conditions and to accommodate increases in the short circuit levels due to the plant addition. The direct interconnection facilities consist of the three plant outlets, additions of 138 kV circuit breakers and associated equipment at the Beaver Creek, Harbert, and Hazard 138 kV stations.

Transmission system upgrades include all costs associated with mitigating contingency thermal overload concerns. The facility thermal overloads were outlined in the report titled "System Impact Study Phase I – Loadflow Analysis, System Impact Study to Connect EnviroPower's New Generators to AEP Transmission Network, Knott County, Kentucky" which was issued to EnviroPower in August 2000. Table 1 shows the loading on transformers and lines, which would experience thermal loading in excess of their normal and or emergency capabilities. These loadings are based on AEP's existing transmission system and EnviroPower's generating plant in service. The transmission system upgrades include the installation of the New Bulan 138/69 kV Station and 69 kV line reconfigurations to integrate the new station into the AEP Transmission System.

Loadflow and short circuit models were created with the proposed generation and the system facility plan as outlined earlier in this report. Analyses were then conducted to simulate various contingency conditions.

Table 2 shows the result of the short circuit analysis. As can be observed, the three phase and line to ground circuit breaker duties increase at existing stations. The magnitude of these increases ranges from a maximum of 1100 MVA for line to ground faults to 1300 MVA for three phase faults. The increased fault levels are all well within the capabilities of the existing circuit breakers. None of the existing circuit breakers will need to be replaced due to the increased short circuit levels.

Figures 4.1 and 4.2 show base system condition power flows – with all facilities in service. Single contingency outages did not cause any facility loading to exceed 87 % of their respective emergency capability or loading levels that existed prior to the addition of the EnviroPower Generating facility.

With the proposed facility additions, the AEP System in the vicinity of EnviroPower's proposed generating plant area will be capable of accommodating receipt of the full 500 MW output.

4. Cost Estimates:

Figures 2 and 5 through 8 show the simplified one line diagram of the planned transmission system configuration in the vicinity of EnviroPower's plant site. The cost estimates for the interconnection station facilities at the plant site to be constructed by EnviroPower are not included.

EnviroPower will be responsible for constructing the 138 kV switching station at their plant site. AEP will provide minimum functional requirements for the in-line station facilities. In addition, AEP will design and install 138 kV metering, all line potential and carrier relaying equipment for the three (3) 138 kV lines, as well as panels, data recorders etc. inside the control house provided by EnviroPower. EnviroPower will make a Contribution In Aid of Construction (CIAC) covering the full cost of the facilities described in this report including any tax consequences that may result from the CIAC.

Direct Interconnection Facilities:

Station Work

New 138 kV Switching Station - Located at EnviroPower's Plant Site: (Figures 2 and 3)
Install four (4) 138 kV circuit breakers, associated switches, wave traps, metering and relaying to connect the three newly created 138 kV lines to Beaver Creek, Harbert, and Hazard stations. EnviroPower will be responsible for constructing the 138 kV switching station at their plant site. AEP will provide minimum functional requirements for the in-line station facilities. AEP will design and install 138 kV metering, all line potential and carrier relaying equipment for the three (3) 138 kV lines, as well as panels, data acquisition and fault recording equipment inside the control house provided by EnviroPower.

The metering system will measure bi-directional power and energy flows at the 138 kV interconnection to the power plant. It will include CTs/VTs, kWh meters, data recorders and a dial-up phone line for remote data retrieval, a new Remote Terminal Unit (RTU) and a leased phone line for remote control and monitoring of the new switching devices. Additional metering and telemetry equipment may be required at the EnviroPower's Plant when the plant one-line configuration and its control instrumentation system are finalized.

Estimated Cost [1, 2] **$ 739,000**

[2] The estimate does not include cost to establish the new station at the plant site, install circuit breakers, structural steel, grounding, bus, control house, etc. EnviroPower will be responsible for designing and constructing the new station with the exception of the facilities as defined above.

Beaver Creek 138 kV Station: (Figures 3 and 5)
Install a new 138kV, 3000A circuit breaker, 138kV, 3000A gang operated breaker disconnect switches, bus work, 138kV structural steel, control cable, relaying, grounding and associated equipment.

Estimated Cost [1] **$ 714,000**

Hazard 138 kV Station: (Figures 3 and 6)
Install a new 138kV, 3000A circuit breaker, 138kV, 3000A gang operated breaker disconnect switches, bus work, 138kV structural steel, control cable, relaying, grounding and associated equipment.

Estimated Cost [1] **$ 513,000**

New Harbert 138 kV Station: (Figures 3 and 7)
Expand this station to accommodate the termination of a new 138kV line to the EnviroPower IPP interconnecting station, the existing feed to Spicewood and the metering and feed to Harbert Construction. Install a 138kV steel bay, foundations, grounding, 138kV 2000A circuit breaker and associated line, bus and breaker by-pass disconnect switches that supply the feed to Harbert Construction, 138kV, 3000A gang operated air break switch and carrier equipment in the IPP line, 138kV bus work, relaying, control cables, grounding and associated equipment. The purchase of additional land will be necessary at this location.

Estimated Cost [1] **$ 1,053,000**

Line Work

EnviroPower to Harbert 138 kV Double Circuit Tower Line: (Figure 3)
On a right-of-way provided by EnviroPower, construct a double circuit 138 kV steel lattice tower line between the EnviroPower Switching Station and Harbert Station – a distance of about 4.7 miles. Use six (6) 795 kCM ACSR (45/7) for phase conductors and 7#8 Alumoweld for ground wire. Use one side of the double circuit line to terminate at the Harbert Station while the other circuit will utilize the 19-mile line section described below and terminate at the Beaver Creek Station.

Estimated Cost [1] **$ 4,027,000**

Harbert to Beaver Creek 138 kV Line: (Figure 3)
On a new right-of-way, construct a single circuit wood H-Frame 138 kV line using 795 kCM ACSR for phase conductor and 7#8 Alumoweld for ground wire – a distance of about 19 miles. Utilize one set of conductors on the double circuit tower line, as mentioned above, to create the express Beaver Creek – EnviroPower 138 kV Circuit.

Estimated Cost [1, 3, 4] **$ 13,060,000**

EnviroPower to New Bulan 138 kV Line: (Figure 3)
On a right-of-way provided by EnviroPower, construct a single circuit wood H-Frame 138 kV line using 1,033.5 kCM ACSR for phase conductor and 7#8 Alumoweld for ground wire – a distance of about 6.8 miles.

Estimated Cost [1, 3] **$ 4,250,000**

New Bulan to Hazard 138 kV Line: (Figure 3)
On a new right-of-way, construct a single circuit wood H-Frame 138 kV line using 1,033.5 kCM ACSR for phase conductor and 7#8 Alumoweld for ground wire – a distance of about 7.2 miles.

Estimated Cost [1, 3] **$ 4,990,000**

Total Estimated Direct Interconnection Cost [1, 2, 3, 4] **$29,346,000**

AEP System Upgrades:

Station Work

New Bulan 138 kV Station: (Figures 3 and 8)

Construct a new 138/ 69kV station located at a site provided by EnviroPower. The new station will connect to the EnviroPower-Hazard 138 kV Line. Install a 138/69/12kV, autotransformer, 138kV, 2000A line and 1200A transformer motorized air break switches, 138 & 69kV bus work, three (3) 69kV, 2000A circuit breakers and associated line and bus disconnect switches, relaying and associated control cable, 138 & 69kV structural steel, foundation, grounding, site preparation, control building and associated equipment. Connect the Bonnyman and Hazard 69kV lines to the new 69 kV bus. The purchase of additional land will be necessary at this location.

Estimated Cost [1] $ 2,224,000

Line Work

New Bulan Station 69 kV Line Exits: (Figure 3)

On a new right-of-way, construct a double circuit wood H-Frame 69 kV line using 556.5 kCM ACSR for phase conductor and 7#10 Alumoweld for ground wire – a distance of about 2 miles.

Estimated Cost [1] $ 1,460,000

Total Estimated System Upgrade Cost [1] $ 3,684,000

Total Estimated Project Cost [1, 2, 3, 4] $33,030,000

1 The estimates are preliminary in nature, as they were determined without detailed engineering and design studies. Estimated costs are based on 2003 service date.

2 The estimate does not include cost to establish the new station at the plant site, install circuit breakers, structural steel, grounding, bus, control house, etc. EnviroPower will be responsible for designing and constructing the new station with the exception of the facilities as defined above.

3 The cost estimates for three 138 kV lines -- Beaver Creek Station to New Harbert Switching Station, EnviroPower Switching Station to New Bulan Station, and New Bulan Station to Hazard Station – assume single circuit wood H-Frame construction. If "Guyed-Vee" construction is required, the cost may increase by an additional $5,000,000.

4 The cost estimate for the Beaver Creek to New Harbert Switching Station line assumes single circuit wood H-Frame construction on a new line right-of-way parallel to the existing 138 kV line. If this line needs to be constructed using the existing line right-of-way and as a double circuit steel lattice tower, the cost may increase by an additional $1,500,000.

Note: The Beaver Creek-Hazard Area Transmission System is planned for single contingency reliability. The EnviroPower Plant out let is also designed to withstand single contingency outages. Immediately subsequent to a single-contingency outage, the plant output would need to be curtailed to prepare for the next contingency. The curtailment would be required to mitigate both thermal and stability concerns. Actual level of curtailment would depend on final impedance values of the system and the generating unit and step-up transformer test data. If EnviroPower proceeds with the project, AEP would conduct an operational study at cost to EnviroPower to determine the curtailment amounts and specific conditions for which they would be required.

Table 1 (Enviro Power Merchant Plant in Service - System Configuration based on three plant outlets only)

System Condition	Envirpower - Beaver Ck. # 1 138 kV MVA	Envirpower - Beaver Ck. # 2 138 kV (via Herbert St.) MVA	Envirpower - Hazard, 138 kV MVA
Base Condition - All Facilities in Service	133	130	237
Envirpower - Beaver Ck. # 1 138 kV Out	0	202	298
Envirpower - Beaver Ck. # 2 138 kV Out	202	0	298
Envirpower - Hazard 138 kV Out	248	252	0

	Beaver Ck.-Hazard 138 kV		Leslie-Pineville 161 kV		Beaver Ck-Spicewood 138 kV		Hazard 138/69 kV # 1		Hazard 138/69 kV # 2		Hazard-Blue Grass 69 kV		Hazard-Shamrock 69 kV	
Rating (SN/SE) in MVA	153 / 194		172 / 172		258 / 345		69 / 75		177 / 195		76 / 76		76 / 76	
System Condition	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal	MVA	% of Normal
Base Condition - All Facilities in Service	15	10%	19	11%	116	45%	39	57%	80	45%	52	68%	25	33%
Beaver Ck - Hazard 138 kV Out	0	0%	17	10%	117	45%	38	55%	80	45%	52	68%	25	33%
Leslie-Pineville 161 kV Out	15	10%	0	0%	119	46%	38	55%	80	45%	51	67%	25	33%
Hazard 138/69 kV # 1 Out	17	11%	16	9%	117	45%	0	0%	102	58%	73	96%	6	8%
Hazard 138/69 kV # 2 Out	18	12%	19	11%	120	47%	77	112%	0	0%	20	26%	67	88%
Baker-Broadford 765 kV Out	15	10%	33	19%	111	43%	40	58%	81	46%	52	68%	52	68%
Big Sandy-Inez 138 kV Out	20	13%	18	10%	121	47%	37	54%	79	45%	52	68%	52	68%
Clinch River Generation Out	23	15%	27	16%	123	48%	38	55%	82	46%	51	67%	51	67%

Table 2

		Fault MVA w/o EnviroPower		Fault MVA with EnviroPower		Increase in Fault MVA	
Station Name	Voltage	3 Phase	Line to Ground	3 Phase	Line to Ground	3 Phase	Line to Ground
Beaver Creek	138	2390	2610	3270	3370	880	760
	69	820	830	860	850	40	20
	46	760	600	790	600	30	0
Harbert	138	850	630	2140	1730	1290	1100
Hazard	161	1170	1260	1900	1910	730	650
	138	1200	1330	2170	2240	970	910
Bus #1	69	660	740	1000	1060	340	320
Bus #2	69	800	940	1110	1230	310	290
Bulan	69	570	530	NA	NA	570	530
New Bulan	138	NA	NA	2320	2270	2320	2270
	69	NA	NA	1120	1230	1120	1230
EnviroPower	138	NA	NA	3500	3860	3500	3860

Table 3 (Enviro Power Merchant Plant in Service - System Configuration based on three plant outlets and Other System Improvements - Figure 3)

System Condition	Envirpower - Beaver Ck. # 1 138 kV MW	Envirpower - Beaver Ck. # 2 138 kV (via Herbert St.) MW	Envirpower - Hazard. 138 kV MW	Bulan 138/69 kV Transformer MW
Base Condition - All Facilities in Service	131	143	226	61
Envirpower - Beaver Ck. # 1 138 kV Out	0	217	283	69
Envirpower - Beaver Ck. # 2 138 kV Out	210	0	290	69
Envirpower - Hazard 138 kV Out	243	257	0	0

	Beaver Ck.-Hazard 138 kV		Leslie-Pineville 161 kV		Beaver Ck-Spicewood 138 kV		Hazard 138/69 kV # 1		Hazard 138/69 kV # 2		Hazard-Blue Grass 69 kV		Hazard-New Bulan 69 kV	
Rating (SN/SE) in MVA	153 / 194		172 / 172		258 / 345		69 / 75		177 / 195		76 / 76		76 / 76	
System Condition	MW	% of Normal	MW	% of Normal	MW	% of Normal	MW	% of Normal	MW	% of Normal	MW	% of Normal	MW	% of Normal
Base Condition - All Facilities in Service	5	3%	10	6%	125	48%	10	14%	57	32%	29	38%	6	8%
Beaver Ck - Hazard 138 kV Out	0	0%	9	5%	123	48%	9	13%	56	32%	29	38%	6	8%
Leslie-Pineville 161 kV Out	1	1%	0	0%	127	49%	8	12%	58	33%	28	37%	5	7%
Hazard 138/69 kV # 1 Out	4	3%	8	5%	126	49%	0	0%	58	33%	28	37%	13	17%
Hazard 138/69 kV # 2 Out	2	1%	11	6%	127	49%	21	30%	0	0%	5	7%	4	5%
Baker-Broadford 765 kV Out	12	8%	27	16%	120	47%	10	14%	58	33%	29	38%	8	11%
Big Sandy-Inez 138 kV Out	3	2%	8	5%	130	50%	9	13%	52	29%	29	38%	5	7%
Clinch River Generation Out	6	4%	20	12%	131	51%	9	13%	60	34%	29	38%	4	5%

FIGURE 1

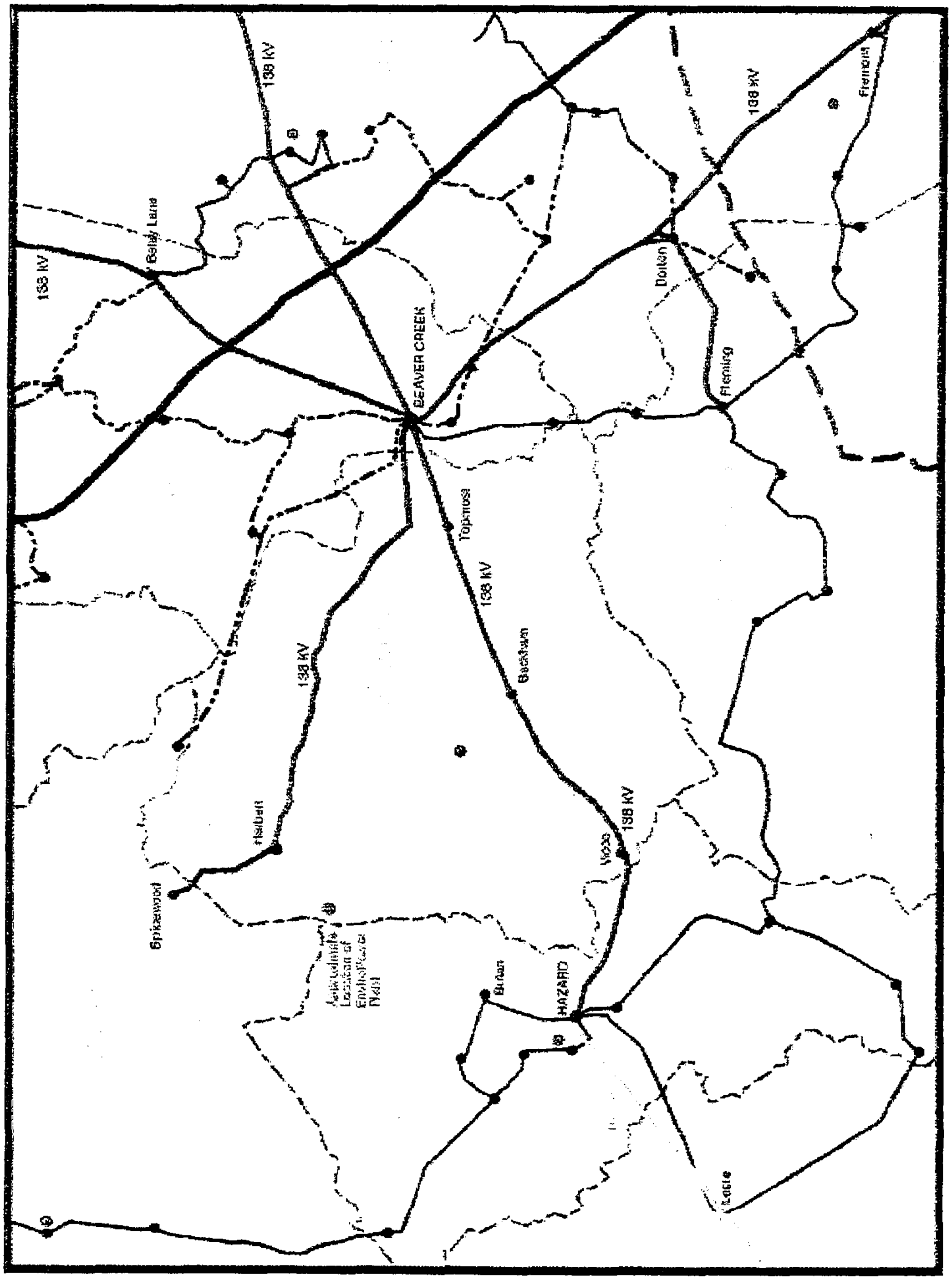

138 kV
Betsy Layne
BEAVER CREEK
Dorton
Fleming
Topmost
Vicco
HAZARD
Bulan
Spicewood

FIGURE 2

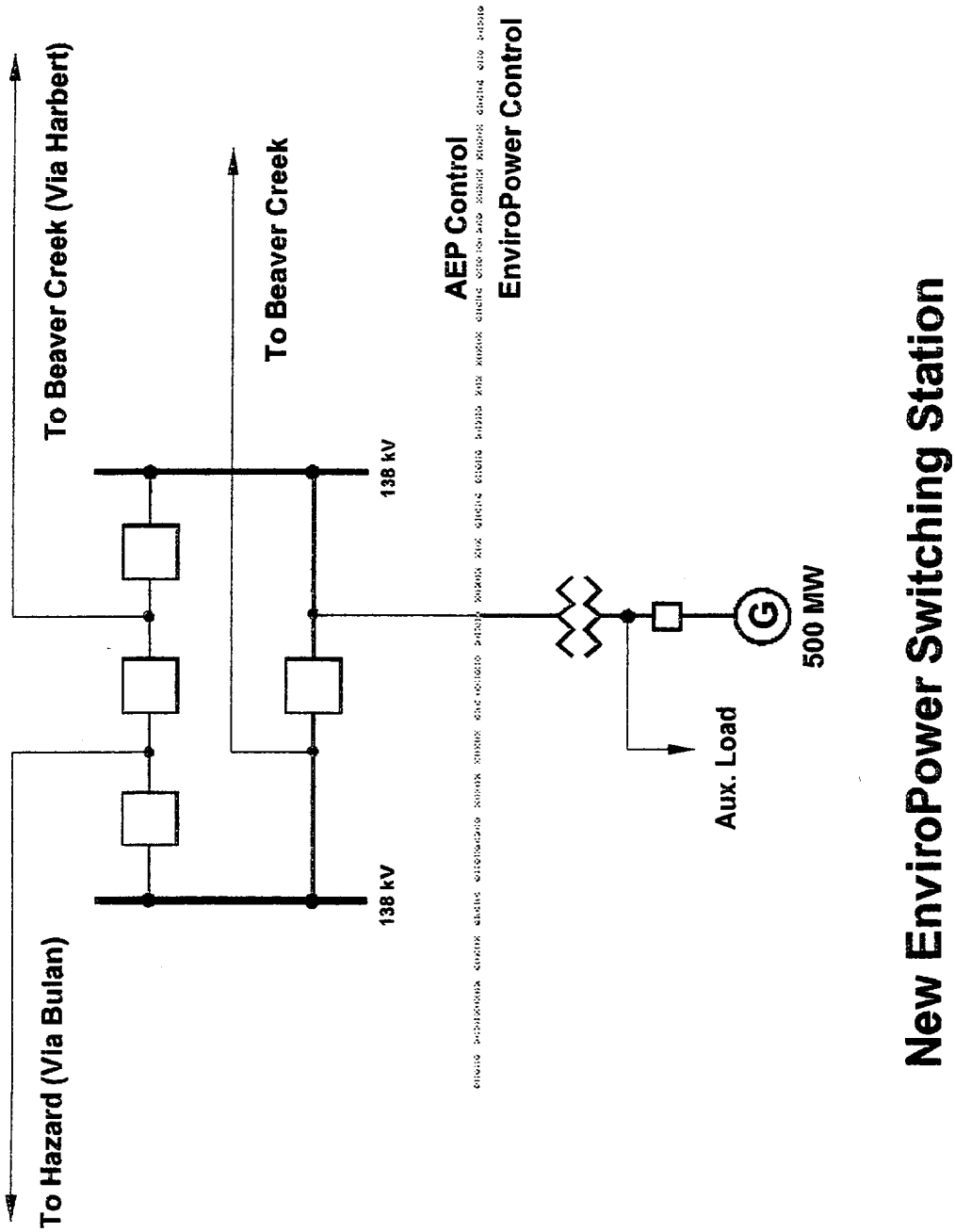

To Beaver Creek (Via Harbert)
To Beaver Creek
AEP Control
EnviroPower Control
138 kV
138 kV
To Hazard (Via Bulan)
Aux. Load
G
500 MW
New EnviroPower Switching Station

FIGURE 3

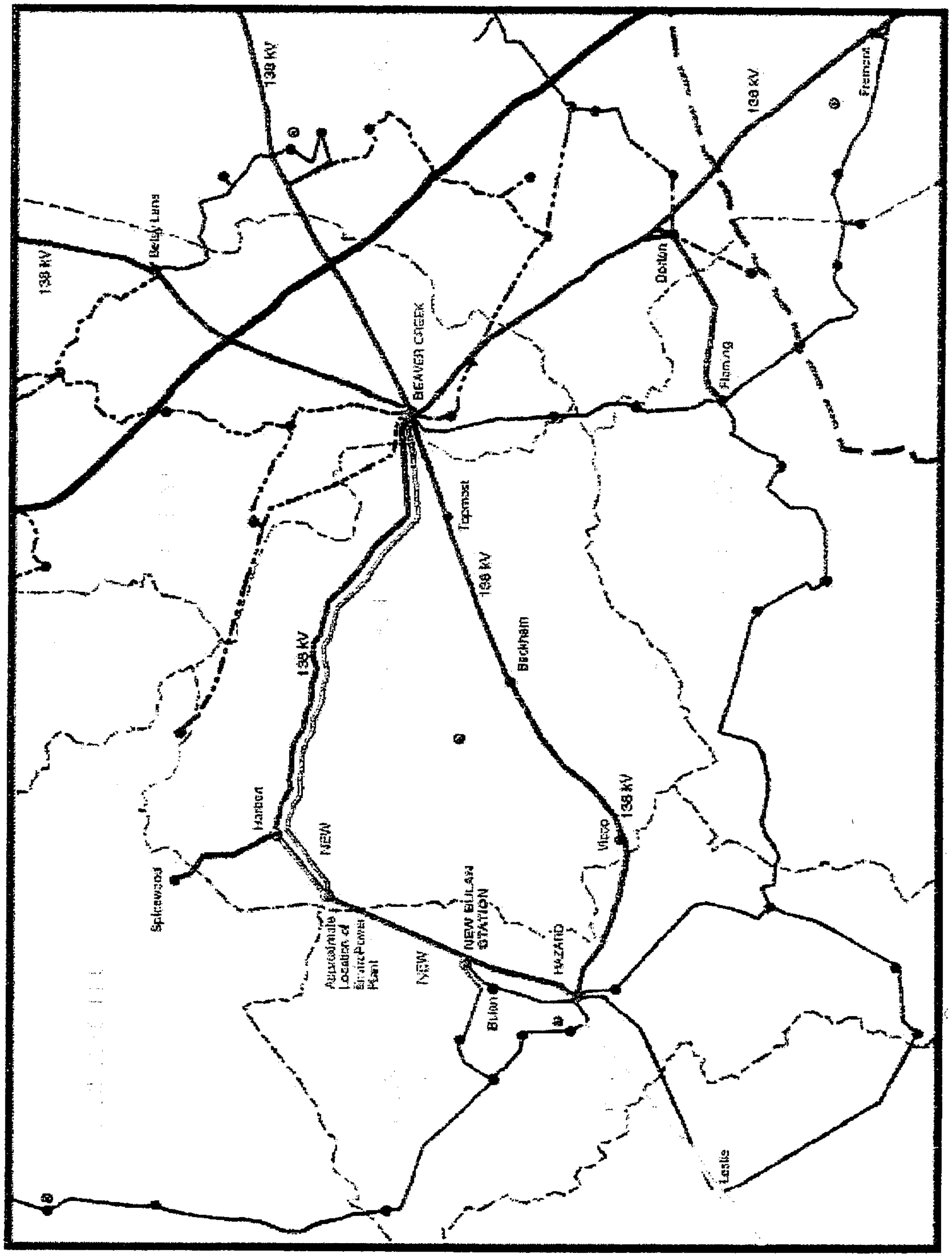

138 kV
BEAVER CREEK
Topmost
Beckham
Vicco
HAZARD
NEW BULAN STATION
Bulan
NEW
Approximate Location of EnviroPower Plant
Leslie
Dorton
Fleming

FIGURE 4.1

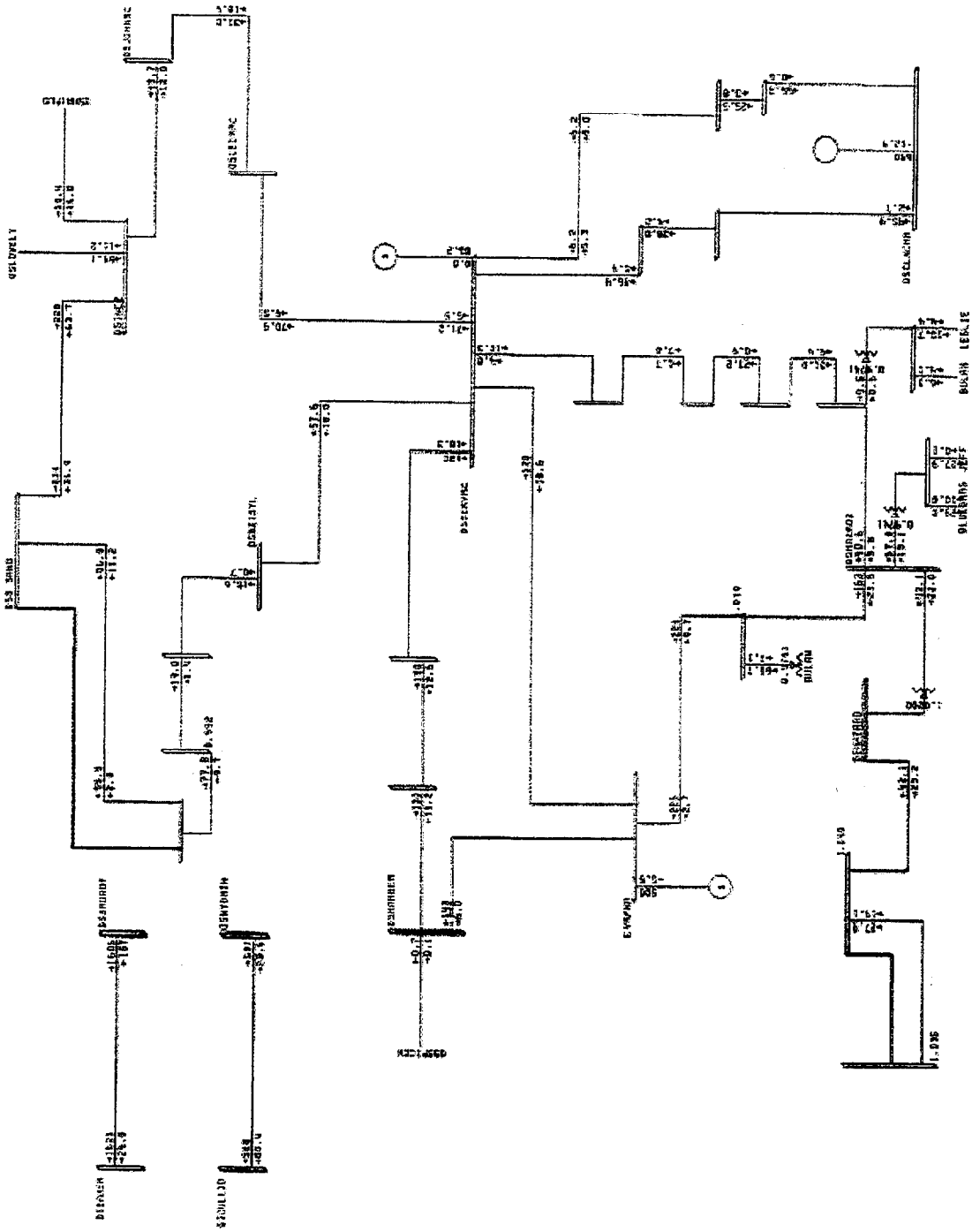


FIGURE 4.2

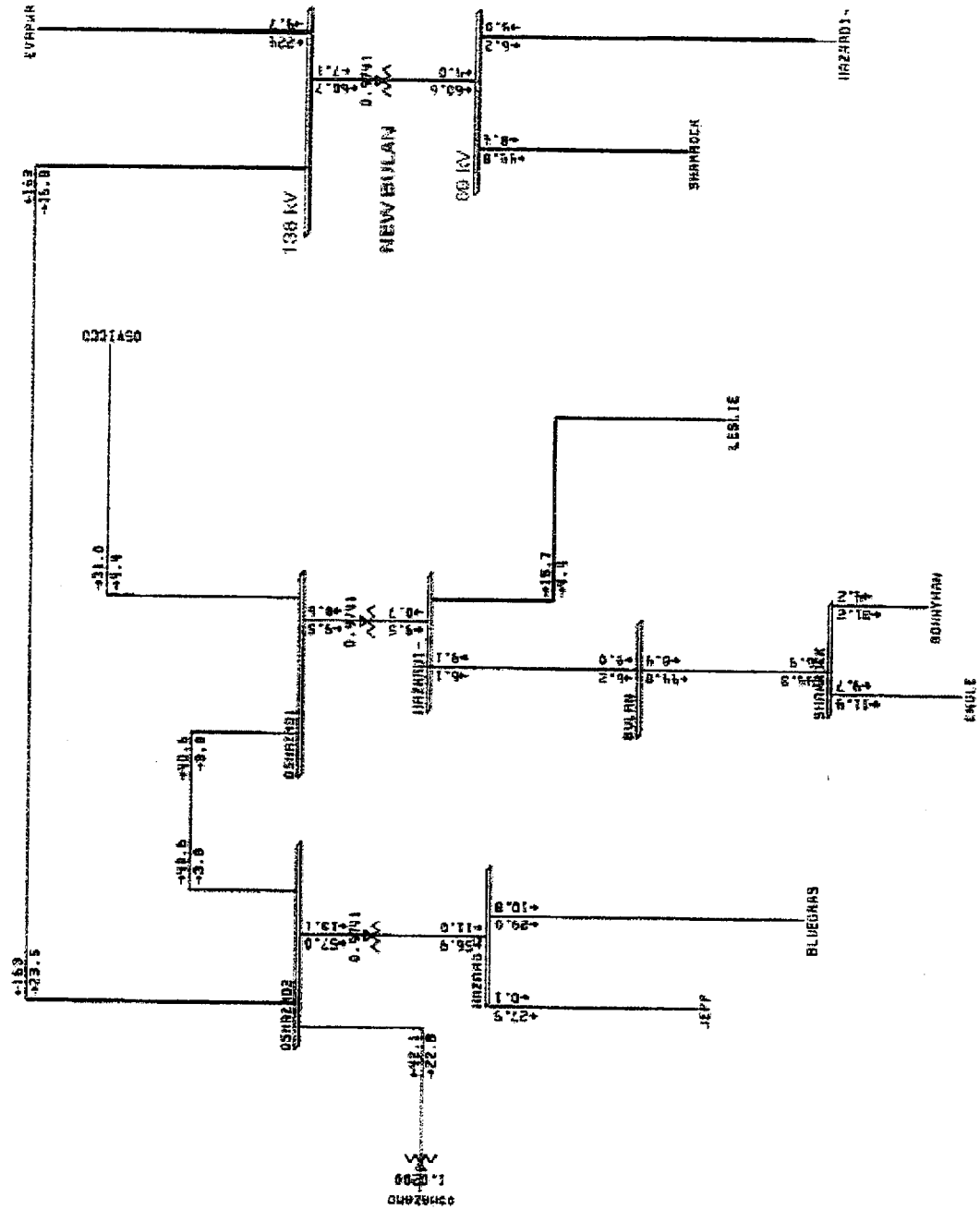


FIGURE 5

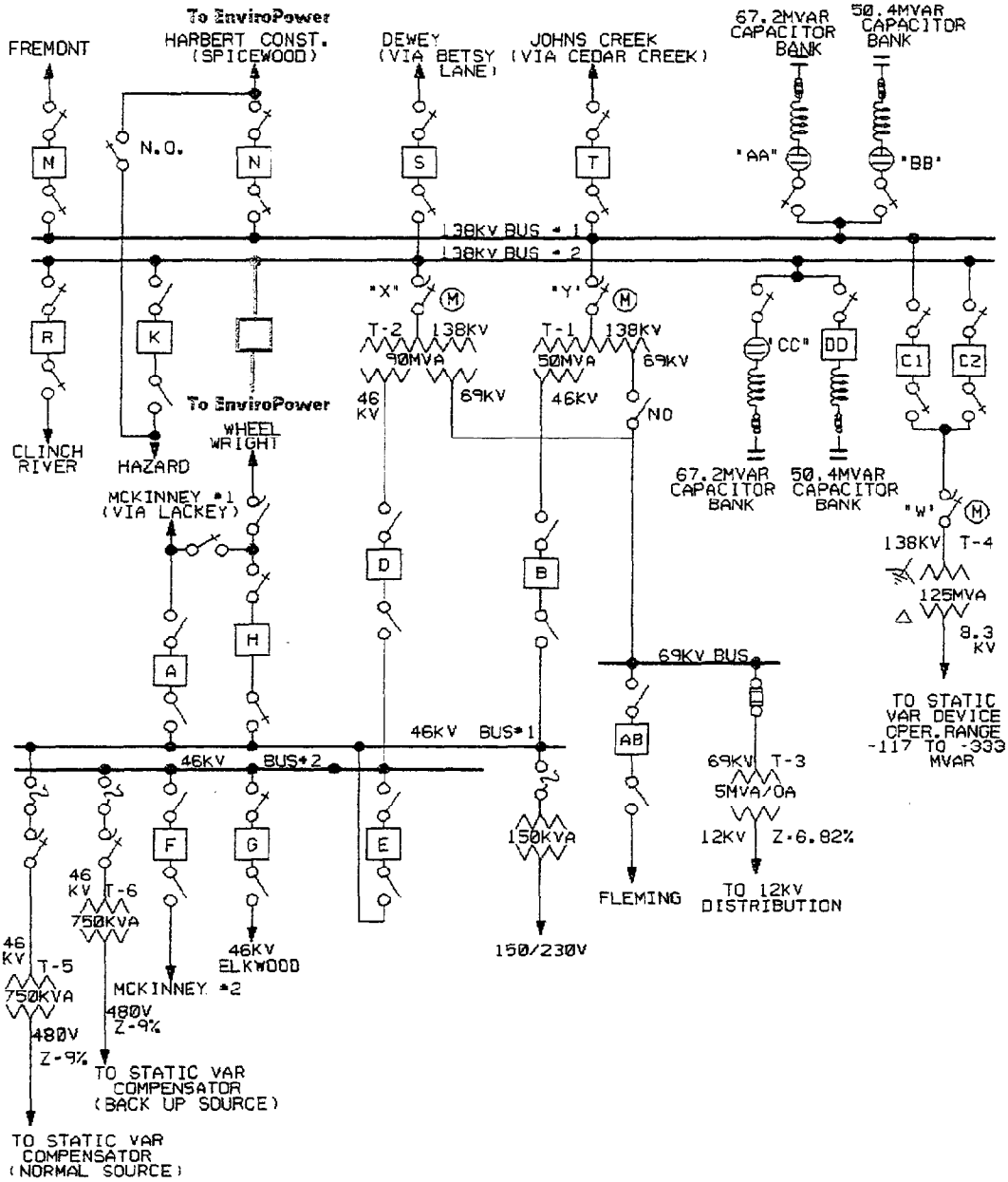
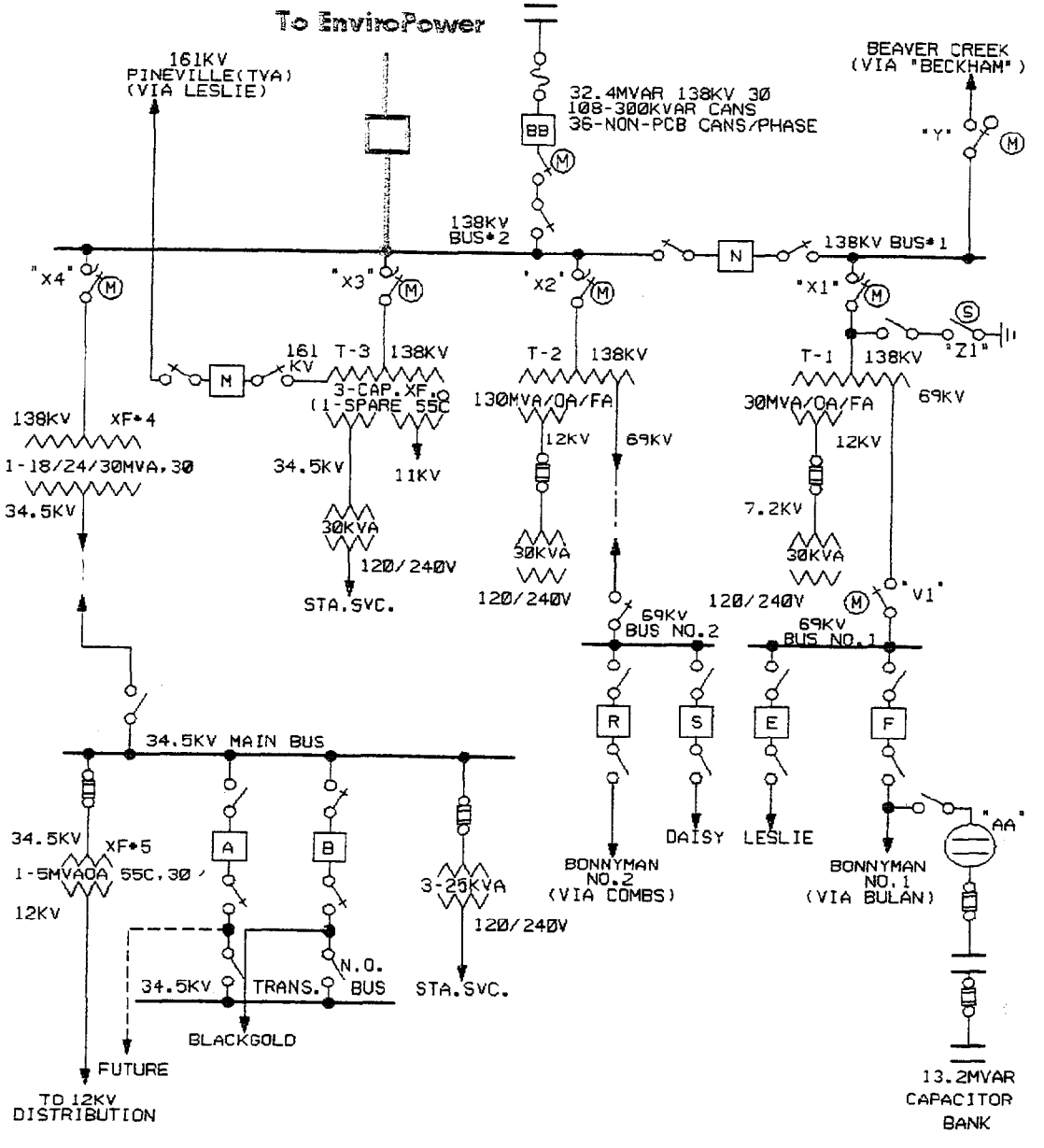
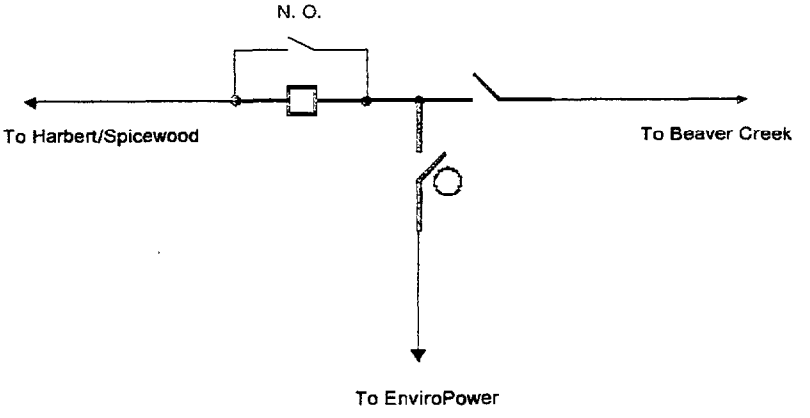

To EnviroPower
HARBERT CONST.
(SPICEWOOD)
FREMONT
DEWEY
(VIA BETSY LANE)
JOHNS CREEK
(VIA CEDAR CREEK)
67.2MVAR CAPACITOR BANK
50.4MVAR CAPACITOR BANK
N.O.
"AA"
"BB"
138KV BUS #1
138KV BUS #2
"X"
"Y"
T-2 138KV
90MVA
69KV
T-1 138KV
50MVA
69KV
46 KV
46KV
NO
CC"
DD
C1
C2
CLINCH RIVER
HAZARD
To EnviroPower
WHEEL WRIGHT
67.2MVAR CAPACITOR BANK
50.4MVAR CAPACITOR BANK
"W"
138KV T-4
125MVA
8.3 KV
MCKINNEY #1
(VIA LACKEY)
TO STATIC VAR DEVICE OPER. RANGE -117 TO -333 MVAR
69KV BUS
46KV BUS#1
46KV BUS#2
69KV T-3
5MVA/OA
12KV Z-6.82%
150KVA
FLEMING
TO 12KV DISTRIBUTION
150/230V
46 KV T-6
750KVA
46KV ELKWOOD
46 KV T-5
750KVA
480V Z-9%
MCKINNEY #2
480V Z-9%
TO STATIC VAR COMPENSATOR (BACK UP SOURCE)
TO STATIC VAR COMPENSATOR (NORMAL SOURCE)
BEAVER CREEK STATION

FIGURE 6



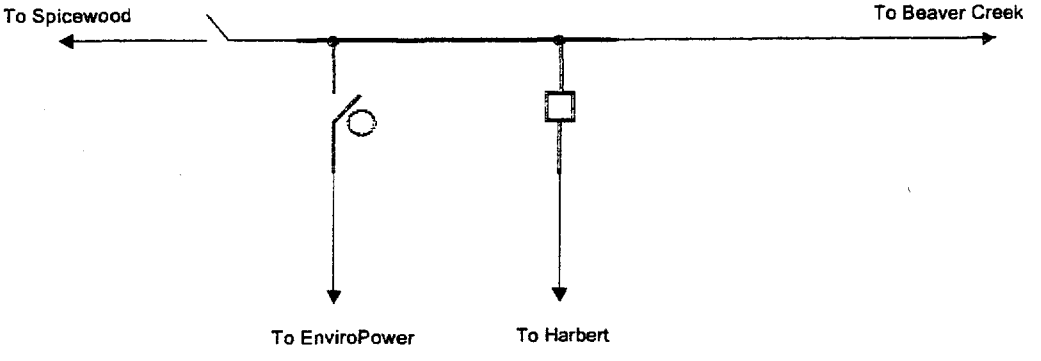
HAZARD STATION

FIGURE 7



OR

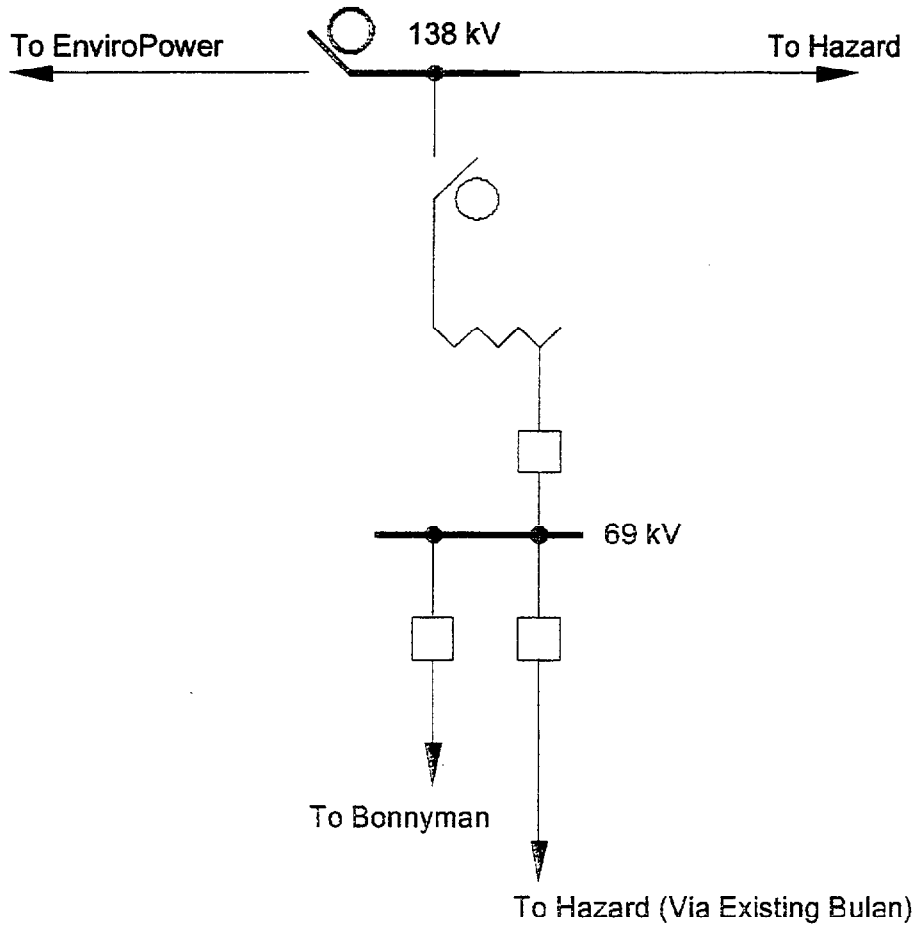
Depending on the Location of the Site



THE NEW HARBERT SWITCHING STATION

The Proposed One Line Diagram

FIGURE 8



NEW BULAN STATION

The Proposed One Line Switching Diagram

System Impact Study
Phase II – Stability Performance Study

EnviroPower LLC's
Connection of Proposed Generating Plant
To The AEP Transmission System

Kentucky Mountain Project
Project

Transmission Planning
August 2000

AEP AMERICAN® ELECTRIC POWER

AEP: America's Energy Partner℠

1. INTRODUCTION

Per EnviroPower, LLC's (EnviroPower) request, American Electric Power (AEP) has conducted a stability performance study to evaluate the feasibility of connecting 500 MW (net) of generation at a new station in Eastern Kentucky, Kentucky Mountain 138 kV. This station is to be connected to AEP's Beaver Creek 138 kV and Hazard 138 kV Stations. This report documents the stability performance study and is a companion report to the Phase I load flow study report dated August 2000, for the same proposed generation facility.

2. OVERVIEW OF GENERATION FACILITIES

Figure 1 of Attachment 1 shows the existing transmission system configuration in the vicinity of the proposed EnviroPower Kentucky Mountain Project along with the proposed connections to the 138 kV stations at Beaver Creek and Hazard. The configuration of the proposed Kentucky Mountain 138 kV Station is shown in Figure 2.

The proposed generating facility would consist of two identical coal burning steam turbine units each with a maximum winter capacity of 250 MW, for a total of 500 MW (net). Each generator would be connected through a generating unit breaker and step-up transformer as shown in Attachment 1, Figure 2. The dynamic modeling data for the generating units, as provided by EnviroPower and their equipment vendors, is documented in Attachment 2.

Dynamic modeling data for the turbine-governor of the steam turbine-generators was not provided. Should the proposed project move forward, this data should be forwarded to AEP when it becomes available from the equipment vendor.

3. TESTING CRITERIA

AEP transient stability criteria for 138 kV connected generation facilities shown in Table 1 below specify the conditions and events for which stable operation is required (see AEP FERC Form 715 filing). In addition, satisfactory damping of generator post-disturbance power oscillations is required.

These testing criteria are used in time domain simulations to evaluate the stability performance of a proposed generation facility. For each disturbance, the resulting transmission system response is simulated and then analyzed to assess the impact of the disturbance scenarios on the proposed generators and the surrounding system.

Table 1
AEP Stability Testing Criteria for 138 kV Connected Generation

Prefault System Condition		Fault Disturbance Scenario
All Transmission Facilities in Service	3A	Permanent single phase to ground fault with three phase breaker failure. Fault clearing by backup breakers.
	3B	Permanent three phase to ground fault with unsuccessful HSR if applicable. Fault cleared by primary breakers.
	3C	Three phase line opening without fault.
One Transmission Facility Out	3D	Permanent three phase to ground fault with unsuccessful HSR, if applicable. Fault cleared by primary breakers.
	3E	Three phase line opening without fault.

4. STUDY SCOPE

Dynamic simulations were conducted for selected event scenarios and various post-contingency network configurations as follows:

CASE 1 – Prior outage of KY Mt.-Harbert 138 kV line. Permanent three phase fault at KY Mt. 138 kV on line to Beaver Creek. Fault clearing in 5 cycles with no high speed reclosing. Proposed units remain connected through Hazard 138 kV. (Criterion 3D)

CASE 2 – Prior outage of KY Mt.-Harbert 138 kV line. Permanent three phase fault at KY Mt. 138 kV on line to Hazard. Fault clearing in 5 cycles with no high speed reclosing. Proposed units remain connected through Beaver Creek 138 kV. (Criterion 3D)

CASE 3 – Prior outage of Beaver Creek-Cedar Creek 138 kV line. Permanent three phase fault at KY Mt. 138 kV on line to Hazard. Fault clearing in 5 cycles with no high speed reclosing. Proposed units remain connected through Beaver Creek and Harbert 138 kV. (Criterion 3D)

CASE 4 – Prior outage of Hazard-Leslie 161 kV line. Permanent three phase fault at KY Mt. 138 kV on line to Beaver Creek. Fault clearing in 5 cycles with no high speed reclosing. Proposed units remain connected through Hazard 138 kV and Beaver Creek 138 kV via Harbert. (Criterion 3D)

CASE 5 – Prior outage of Hazard-Beaver Creek 138 kV line. Permanent three phase fault at KY Mt. 138 kV on line to Beaver Creek. Fault clearing in 5 cycles with no high

speed reclosing. Proposed units remain connected through Hazard 138 kV and Beaver Creek 138 kV via Harbert. (Criterion 3D)

CASE 6 – No prior outages. Permanent one phase fault at KY Mt. 138 kV on line to Beaver Creek. Fault clearing at Beaver Creek end in 5 cycles with circuit breaker failure at KY Mt. Sixteen cycles delayed clearing at KY Mt. including removal of KY Mt.-Harbert line. Proposed units remain connected through Hazard 138 kV. (Criterion 3A)

CASE 7 – No prior outages. Permanent one phase fault at KY Mt. 138 kV on line to Hazard. Fault clearing at Hazard end in 5 cycles with circuit breaker failure at KY Mt. Sixteen cycles delayed clearing at KY Mt. including removal of KY Mt.-Harbert line. Proposed units remain connected through Beaver Creek 138 kV. (Criterion 3A)

CASE 8 – Prior outage of KY Mt.-Harbert 138 kV line. Non-fault initiated tripping of KY Mt.-Hazard 138 kV. Proposed units remain connected through Beaver Creek 138 kV. (Criterion 3E)

High speed reclosing of faulted transmission lines was not simulated due to its adverse impact on transient stability performance for this merchant generation project. If the proposed project moves forward, use of high speed reclosing is not recommended on any of the three plant outlets.

5. DYNAMICS BASE CASE

An AEP dynamics base case representing 2001 summer peak load conditions was used for this study. The dynamics case was assembled using data from the 1999 NERC Dynamics Database. The new generating facilities were added to the case using data provided by EnviroPower and their equipment vendors as shown in Attachments 1 and 2. The transmission facilities added to connect the proposed generation to Hazard and Beaver Creek Stations were consistent with the Phase I study report. Nearby generation at Clinch River was dispatched at maximum MW capacity.

6. STABILITY SIMULATION RESULTS

The stability performance study results are presented in Attachment 3 and are summarized below. Attachment 3 contains a case summary table and plots of generator speed and voltage for the proposed EnviroPower generating units, as well as plots of speed for existing generation at Clinch River, and bus voltage at Kentucky Mountain Beaver Creek and Hazard.

	TRANSIENT STABILITY	OSCILLATORY STABILITY
Case 1	Stable	Unsatisfactory
Case 2	Unstable	N/A

Case 3	Stable	Satisfactory
Case 4	Stable	Satisfactory
Case 5	Stable	Satisfactory
Case 6	Stable	Unsatisfactory
Case 7	Unstable	N/A
Case 8	Stable	Unsatisfactory

The transient and oscillatory stability of the proposed generating facility was found to be unacceptable given the proposed transmission connections for the project.

7. SUMMARY

- The study results show that from a stability perspective, the proposed EnviroPower generation totaling 500 MW (net) may be accommodated at the proposed Kentucky Mountain site, but would require transmission reinforcements beyond the proposed new transmission. The nature of the transmission reinforcement required would be determined in the Facilities Study.

- Dynamic modeling data to represent the steam turbine governor must be provided if the proposed project moves forward.

- If the proposed generation project is built, follow-up stability studies by AEP will be required based on dynamics data and modeling for the proposed generating units that have been revised to reflect equipment commissioning tests and field settings.

- Other generation developments in the vicinity may result in a need to revisit this study.

Attachment 1

EnviroPower Generation

Configuration of Proposed Facility

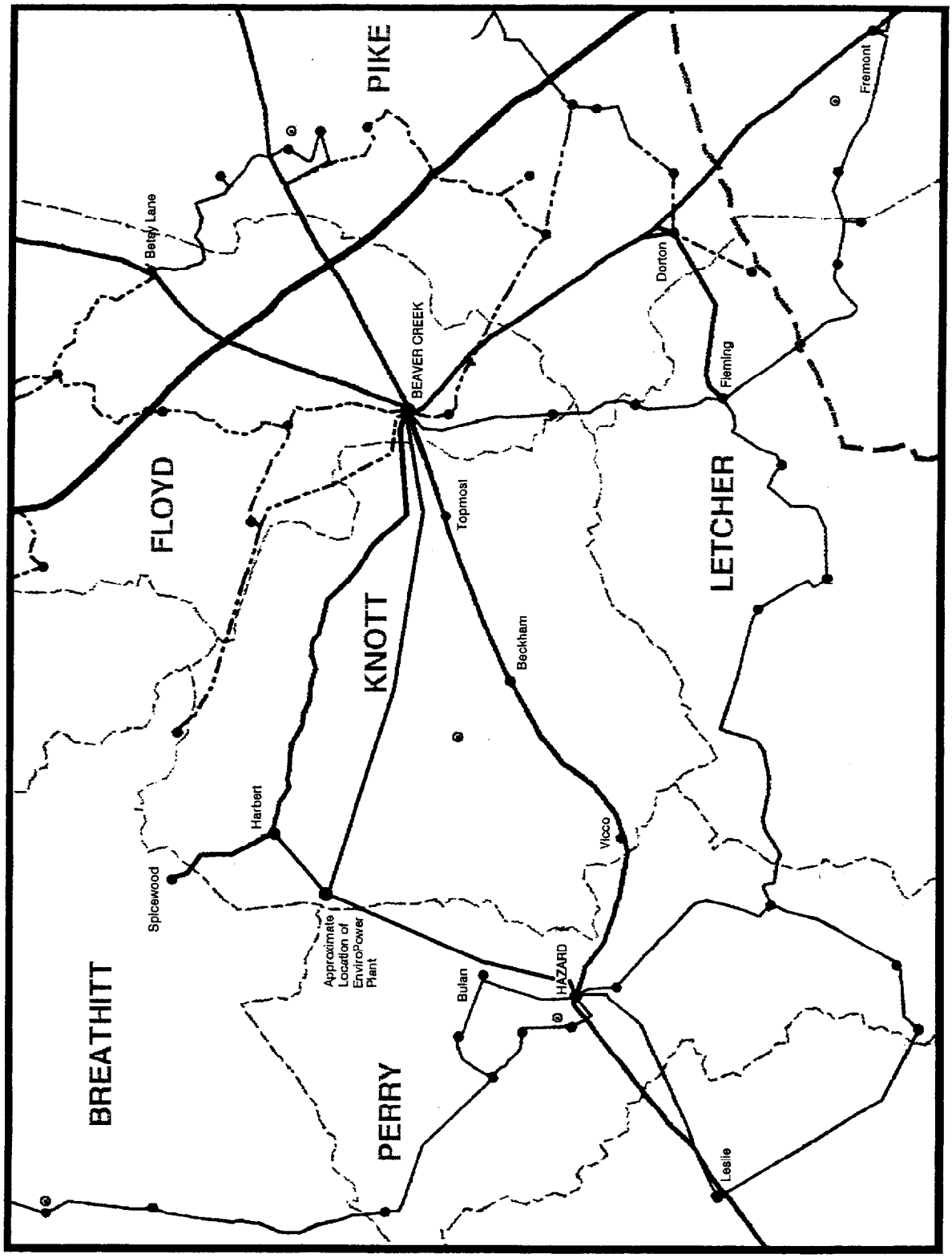


Figure 1 - Transmission Facilities at Beaver Creek, Hazard & Vicinity

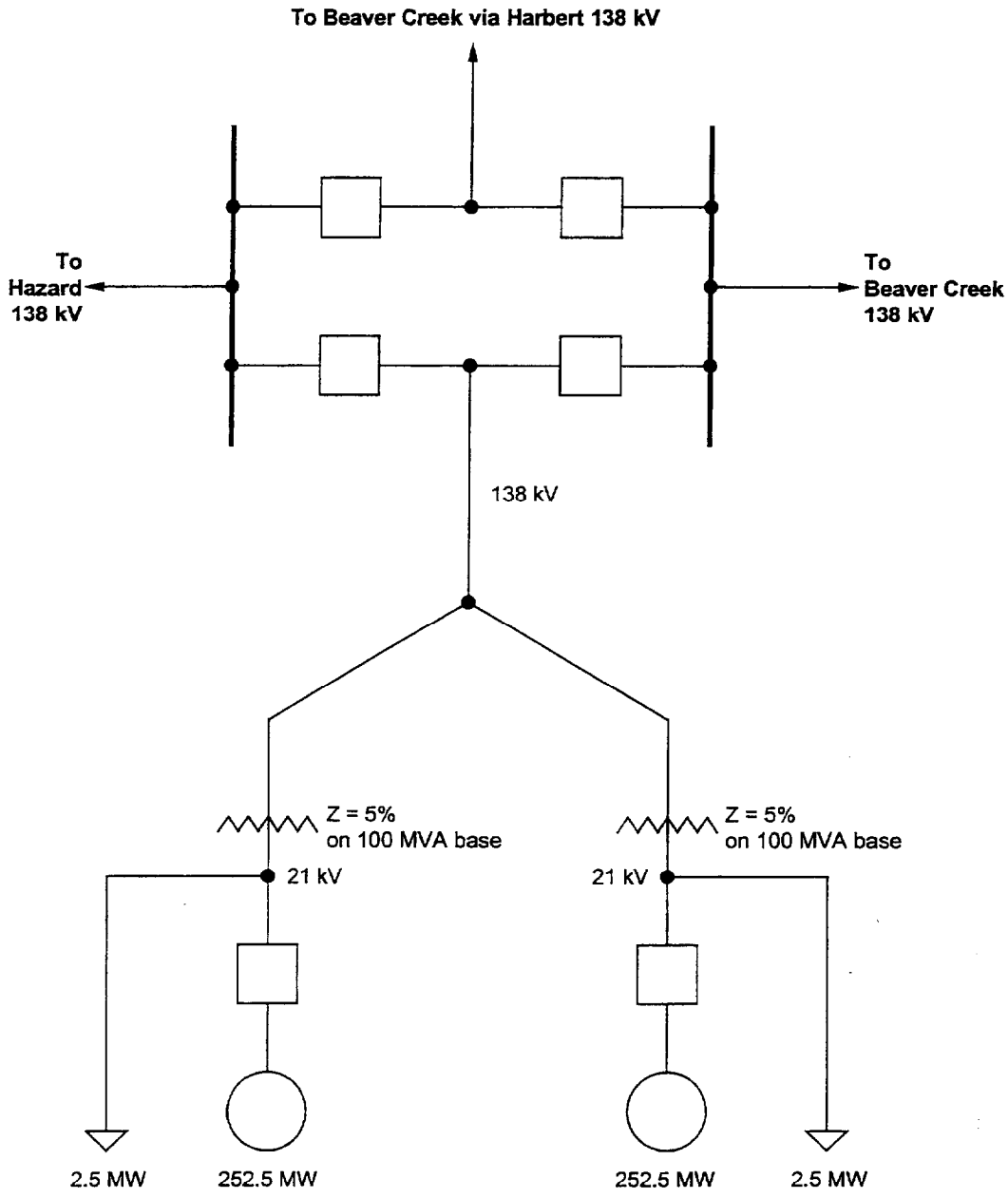


Figure 2 - Configuration of Proposed Kentucky Mountain Generation Facility

Attachment 2

EnviroPower Generation

Dynamics Data

GENROU

Value	Description
305.56	Base MVA
0.00193	R_a
9.48	T'_{do} (>0) (sec)
0.023	T''_{do} (>0) (sec)
0.992	T'_{qo} (>0) (sec)
0.034	T''_{qo} (>0) (sec)
3.68	Inertia, H
0	Speed damping, D
2.21	X_d
2.03	X_q
0.227	X'_d
0.366	X'_q
0.173	$X''_d = X''_q$
0.155	X_l
0.061	S(1.0)
0.225	S(1.2)

X_d, X_q, X'_d, X'_q, X''_d, X''_q, X_l, H, and D are in pu, machine MVA base.

X''_q must be equal to X''_d.

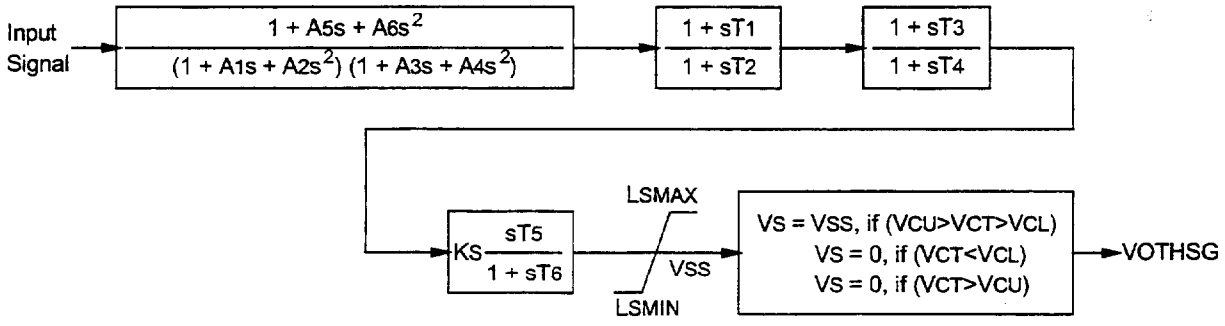
IBUS, 'GENROU', I, T'_{do}, T''_{do}, T'_{qo}, T''_{qo}, H, D, X_d, X_q, X'_d, X'_q, X''_d, X_l, S(1.0), S(1.2)/

IEEEST
IEEE Stabilizing Model

Value	Description
3	ICS, stabilizer input code: 1 - rotor speed deviation (pu) 2 - bus frequency deviation (pu) 3 - generator electric power on MBASE (pu) 4 - generator accelating power (pu) 5 - bus voltage (pu) 6 - derivative of pu bus voltage
0	IB, remote bus number 2, 5, 6

Value	Description
0	A_1
0	A_2
0	A_3
0	A_4
0	A_5
0	A_6
1.0	T_1 (sec)
1.0	T_2 (sec)
0	T_3 (sec)
0	T_4 (sec)
5.0	T_5 (sec)
5.0	T_6 (>0)(sec)
-0.3	K_S
0.05	L_{SMAX}
-0.05	L_{SMIN}
0	V_{CU} (pu) (if equal zero, ignored)
0	V_{CL} (pu) (if equal zero, ignored)

BUS, IEEEST, I, ICS, IB, A_1, A_2, A_3, A_4, A_5, A_6, T_1, T_2, T_3, T_4, T_5, T_6, K_S, L_{SMAX}, L_{SMIN}, V_{CU}, V_{CL}/

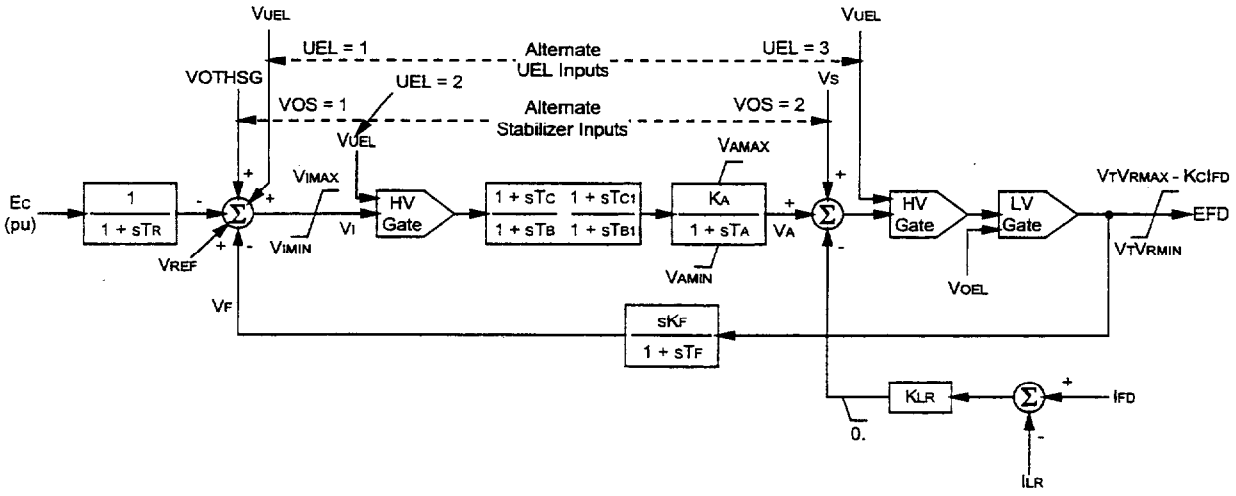


ESST1A
IEEE Type ST1A Excitation System

Value	Description
1	UEL (1, 2, or 3)
1	VOS (1 or 2)

Value	Description
0.02	T_R (sec)
0.17	V_{IMAX}
-0.15	V_{IMIN}
10.0	T_C (sec)
50.0	T_B (sec)
1.0	T_{C1} (sec)
1.0	T_{B1} (sec)
1000	K_A
0	T_A (sec)
5.0	V_{AMAX}
-4.5	V_{AMIN}
5.0	V_{RMAX}
-4.5	V_{RMIN}
0	K_C
0	K_F
10.0	$T_F > 0$ (sec)
0	K_{LR}
0	I_{LR}

IBUS, 'ESST1A', I, UEL, VOS, T_R, V_{IMAX}, V_{IMIN}, T_C, T_B, T_{C1}, T_{B1}, K_A, T_A, V_{AMAX}, V_{AMIN}, V_{RMAX}, V_{RMIN}, K_C, K_F, T_F, K_{LR}, I_{LR}/



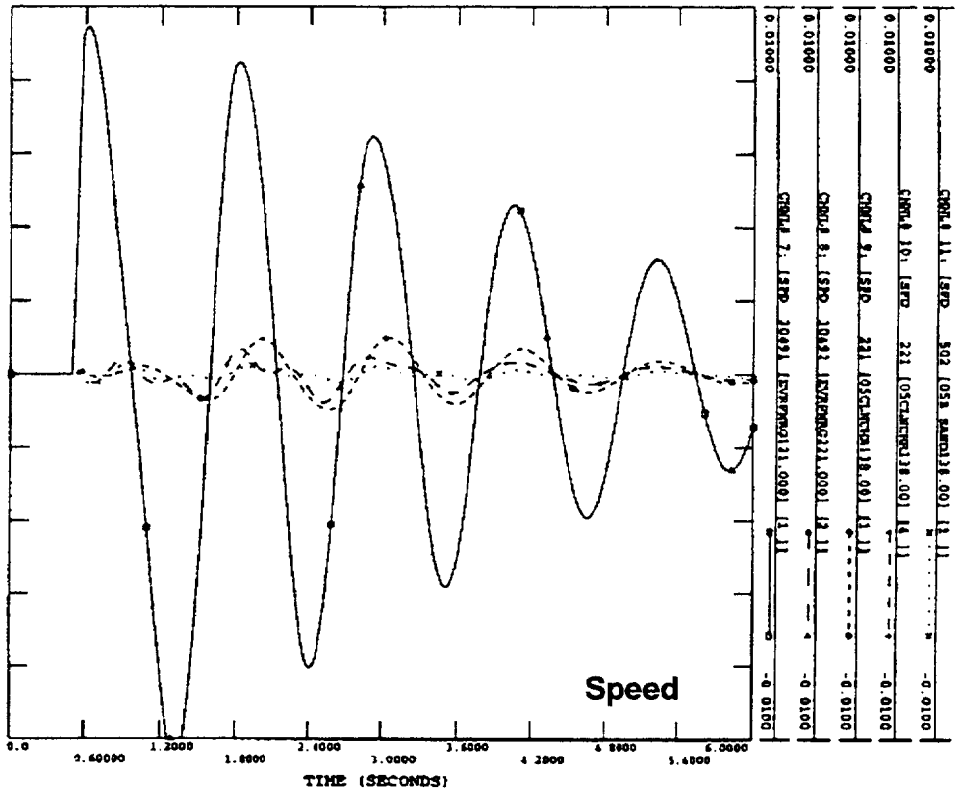
Attachment 3

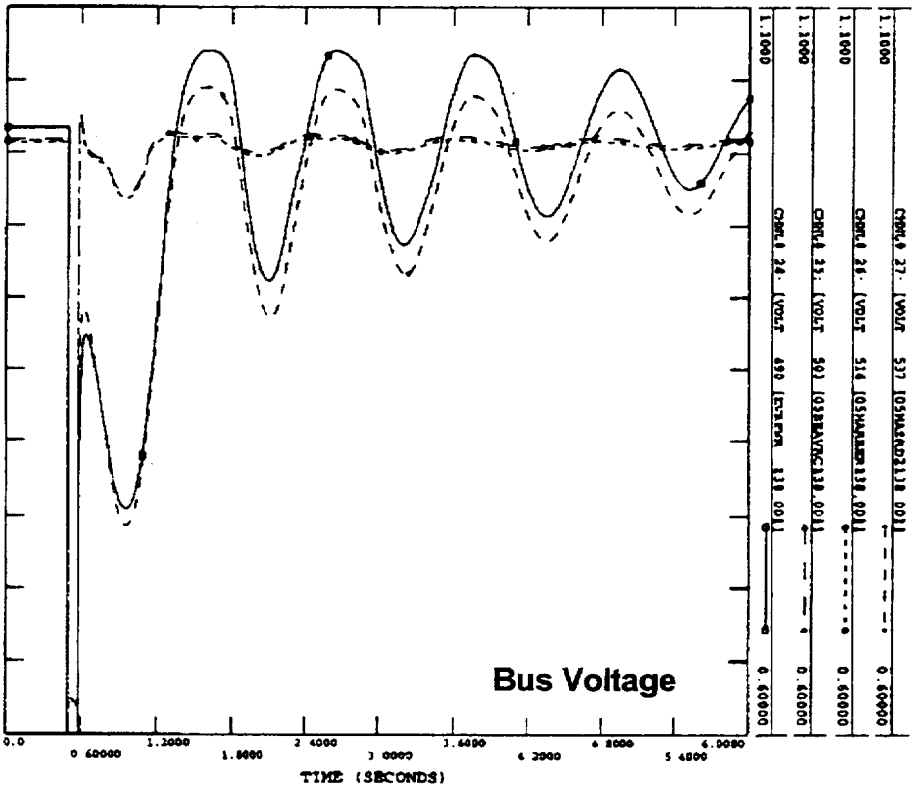
Results –

Individual Case Plots

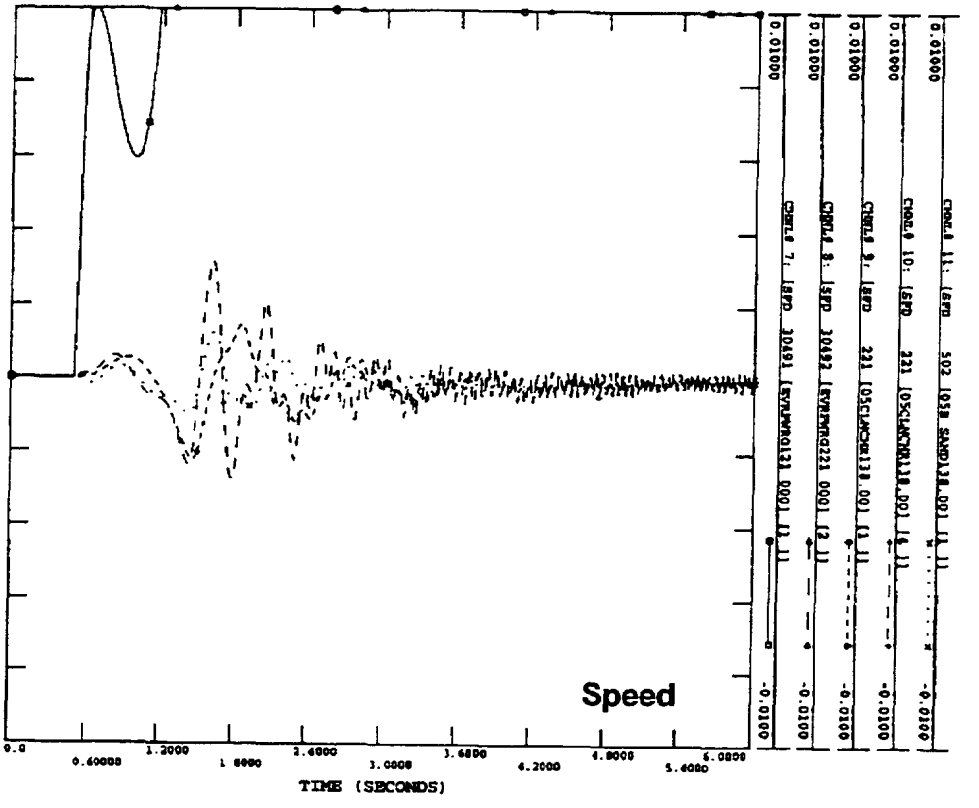
Case Number	Prior Outage	Faulted Line/Transformer	Fault Type	Comments on Study Results	
				Transient	Oscillatory
Case 1	KY Mt.-Harbert 138 kV	KY Mt.-Beaver Creek 138 kV	3 Phase	Stable	Unsatisfactory
Case 2	KY Mt.-Harbert 138 kV	KY Mt.-Hazard 138 kV	3 Phase	Unstable	N/A
Case 3	Beaver Creek-Cedar Creek 138 kV	KY Mt.-Hazard 138 kV	3 Phase	Stable	Satisfactory
Case 4	Hazard-Leslie 161 kV	KY Mt.-Beaver Creek 138 kV	3 Phase	Stable	Satisfactory
Case 5	Hazard-Beaver Creek 138 kV	KY Mt.-Beaver Creek 138 kV	3 Phase	Stable	Satisfactory
Case 6	None	KY Mt.-Beaver Creek 138 kV	1 Phase, Delayed	Stable	Unsatisfactory
Case 7	None	KY Mt.-Hazard 138 kV	1 Phase, Delayed	Unstable	N/A
Case 8	KY Mt.-Harbert 138 kV	KY Mt.-Hazard 138 kV	No Fault	Stable	Unsatisfactory

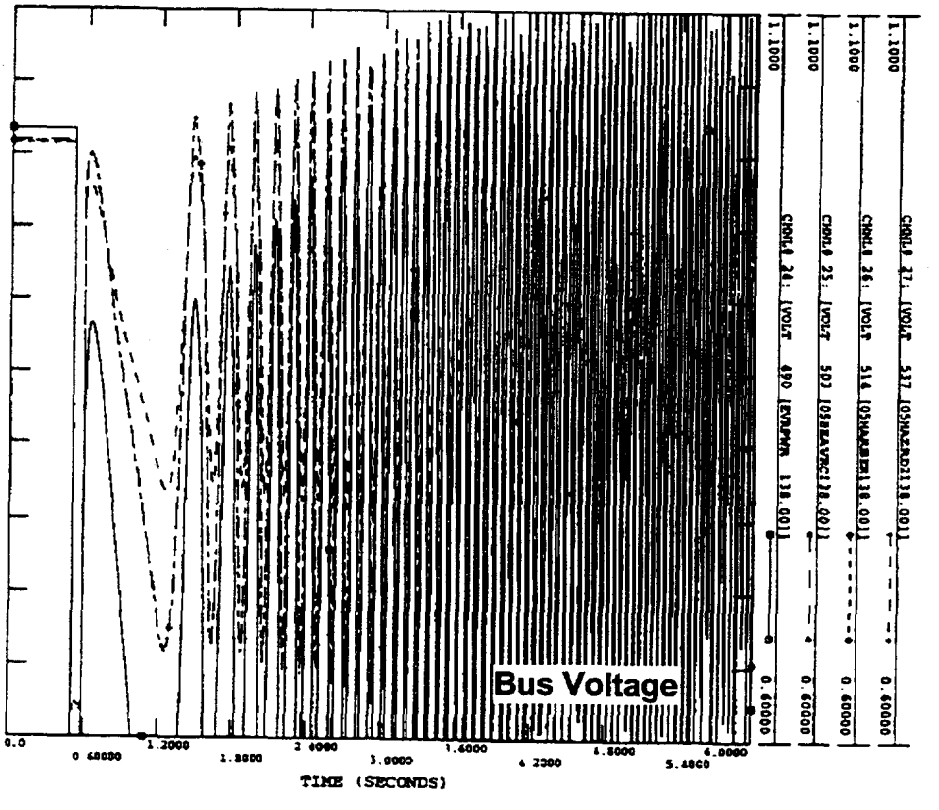
Case 1



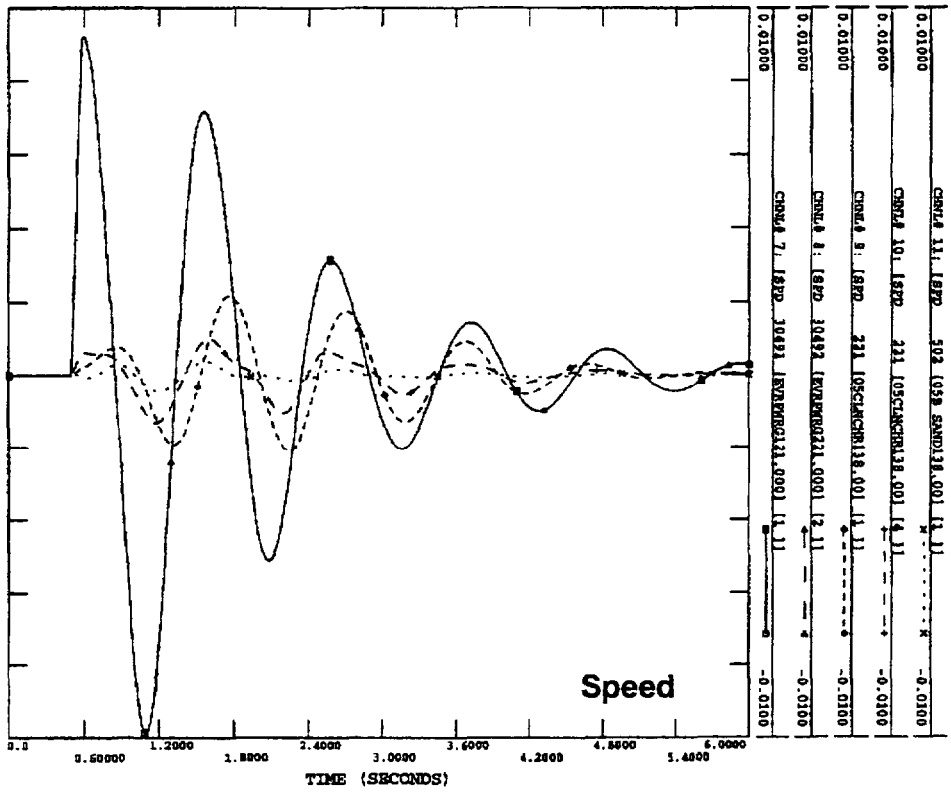


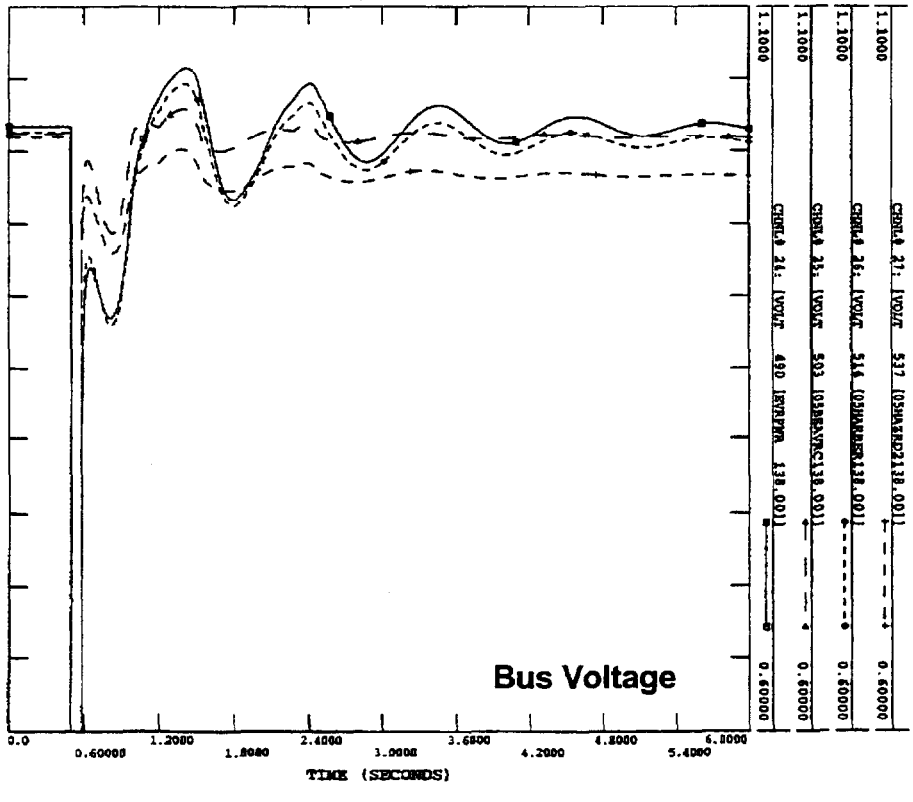
Case 2



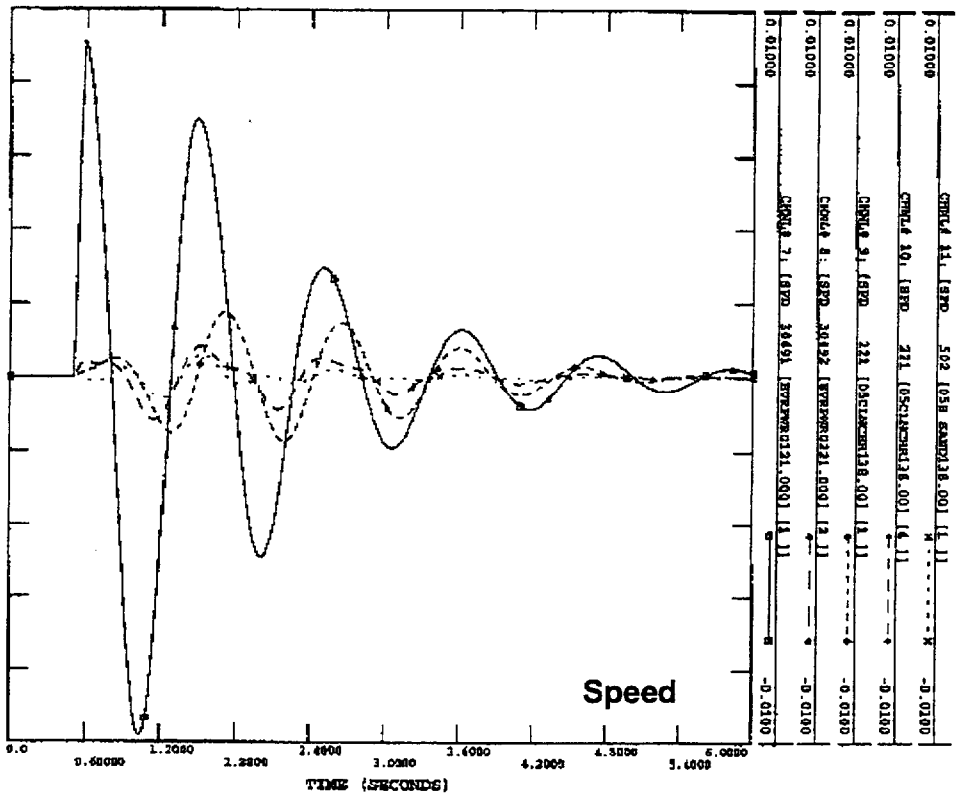


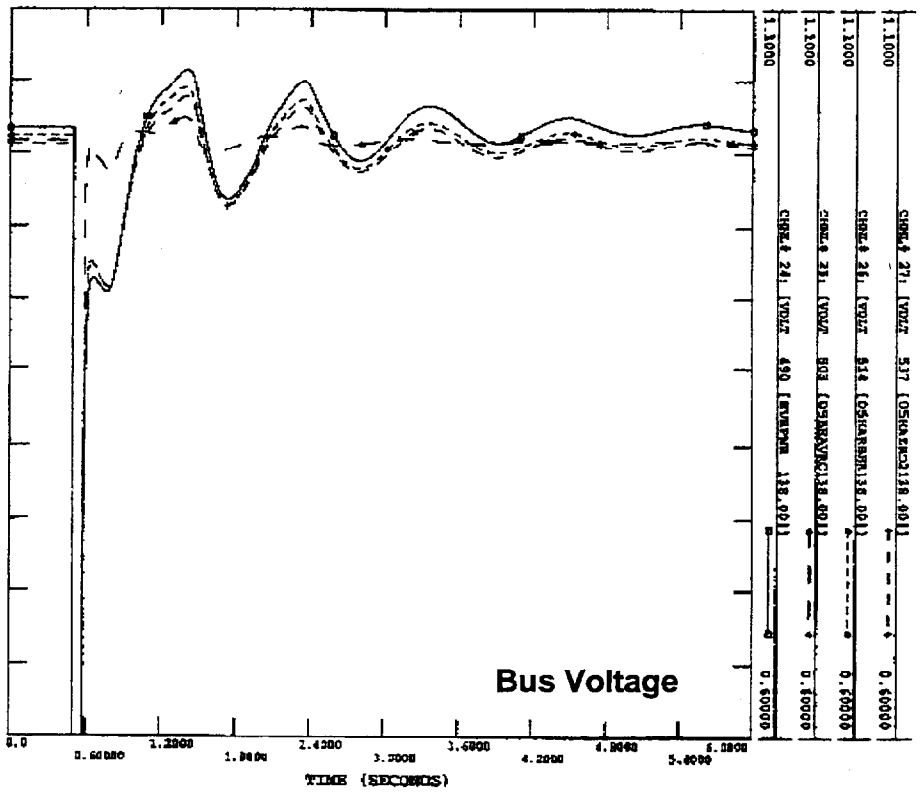
Case 3



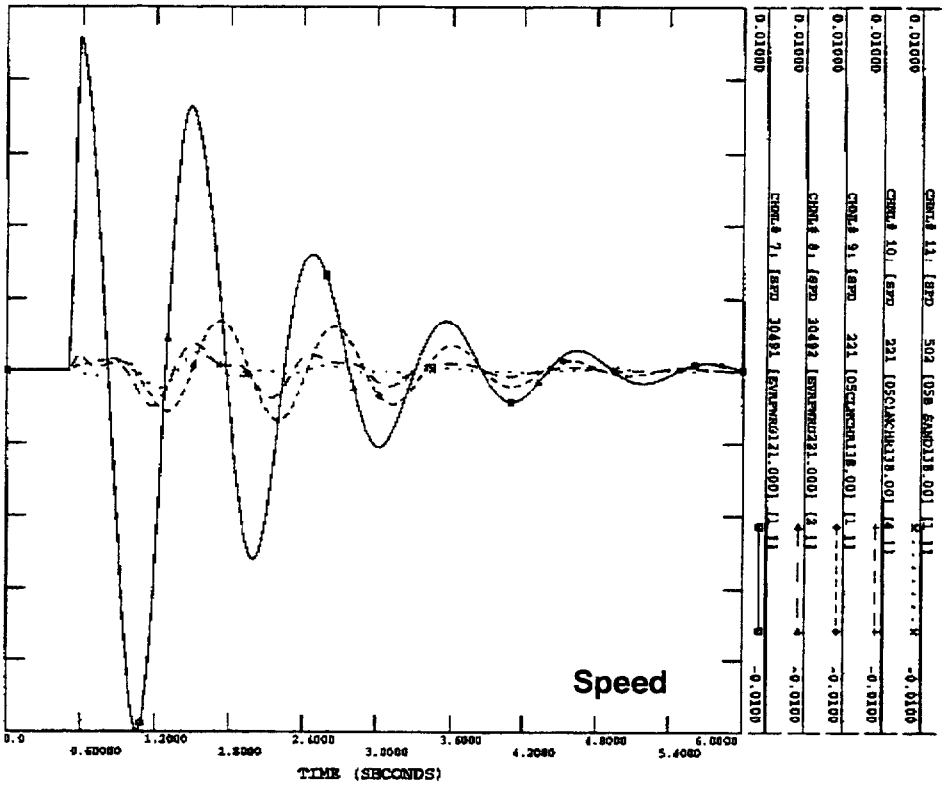


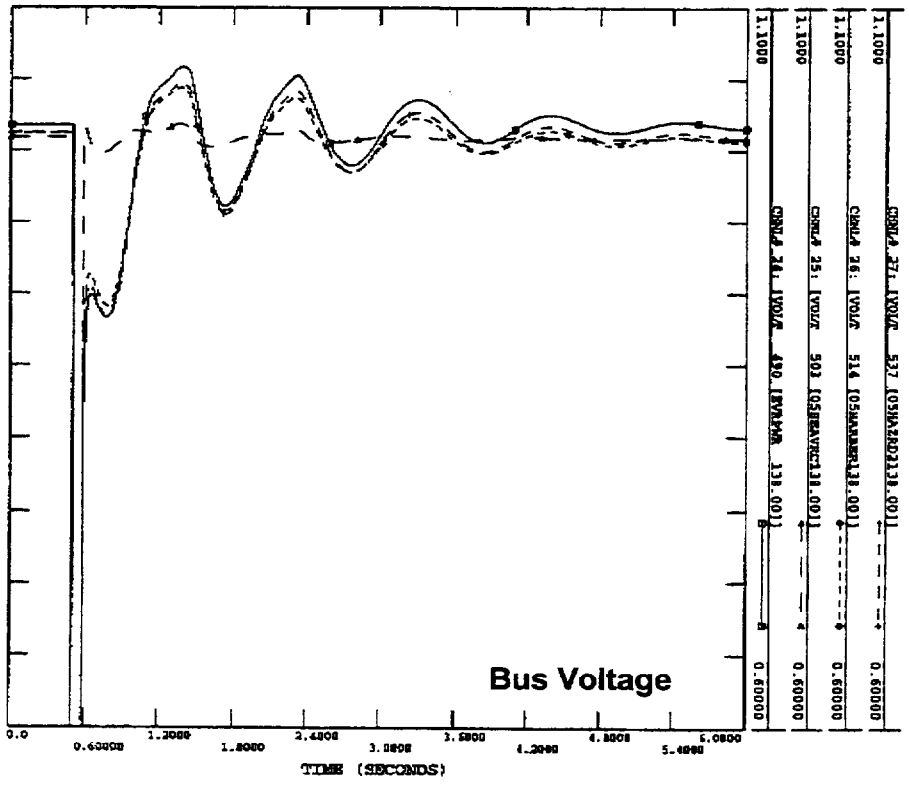
Case 4



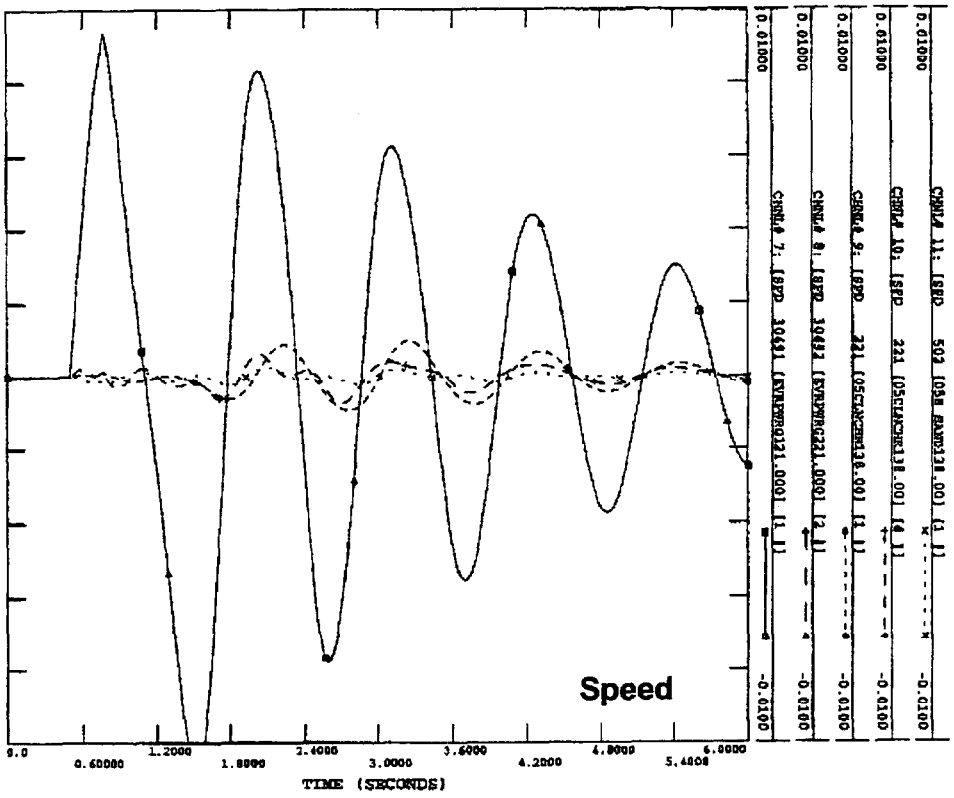


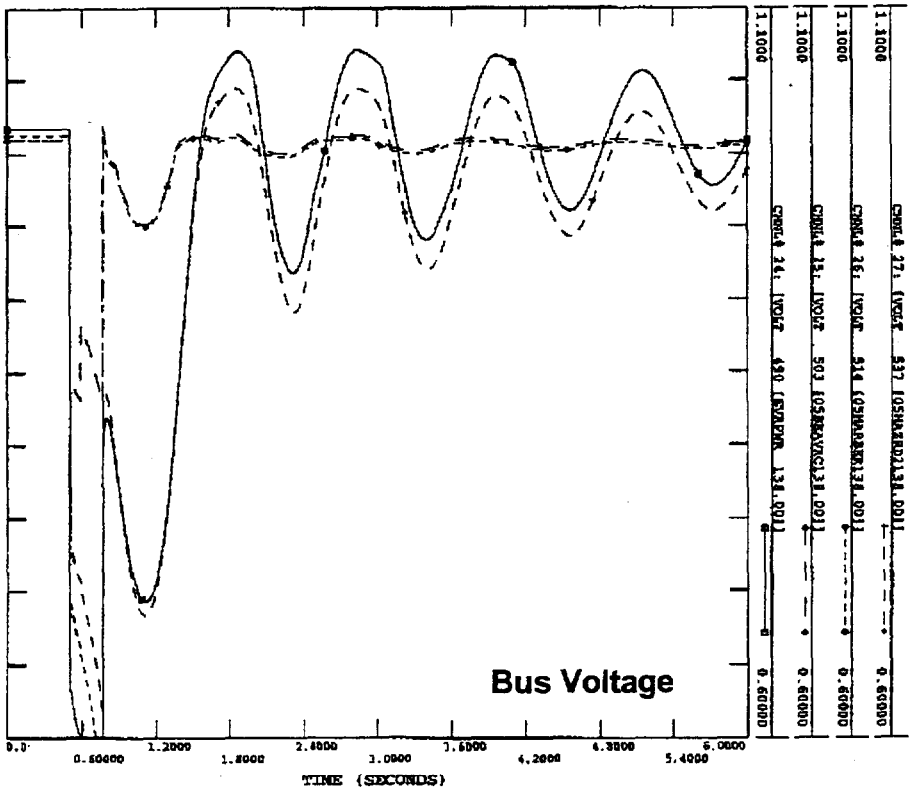
Case 5



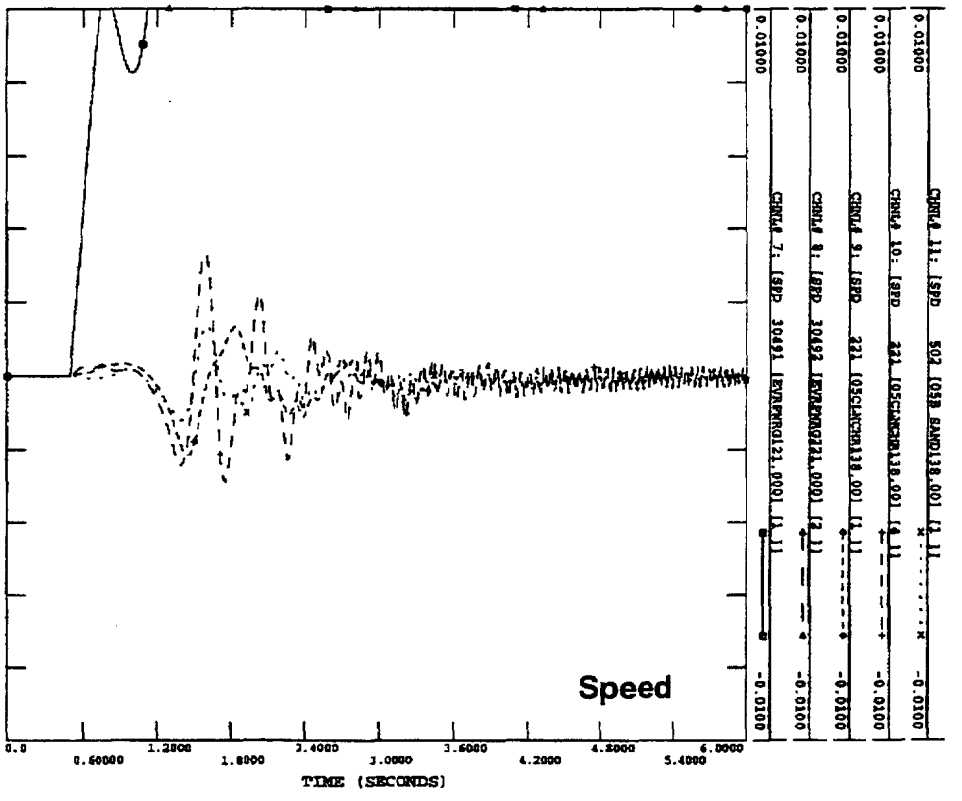


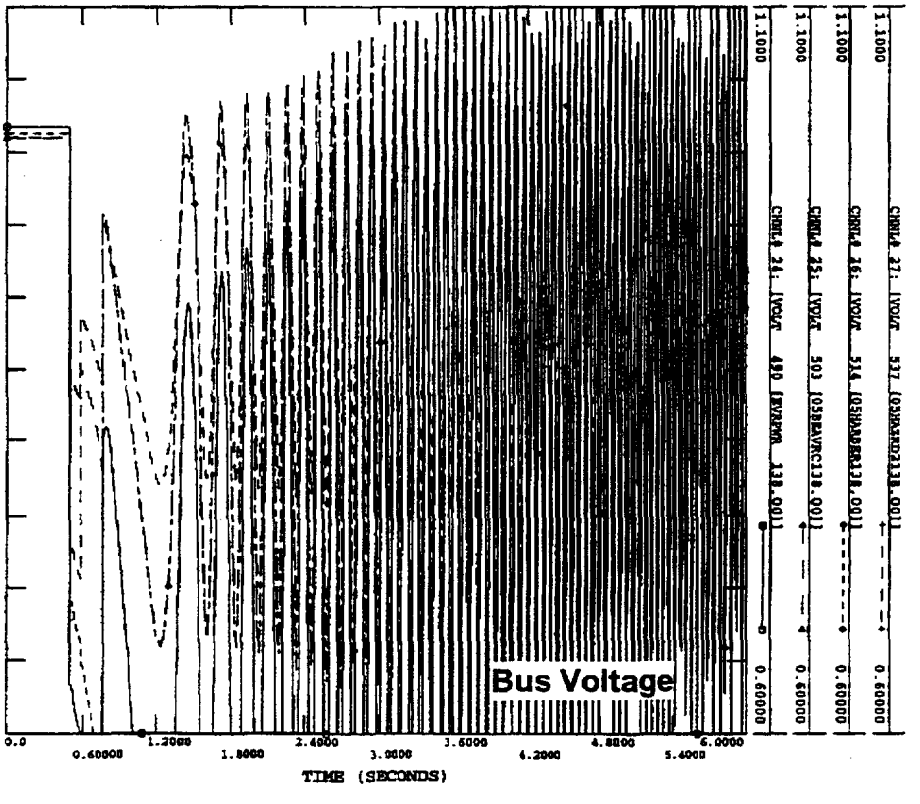
Case 6



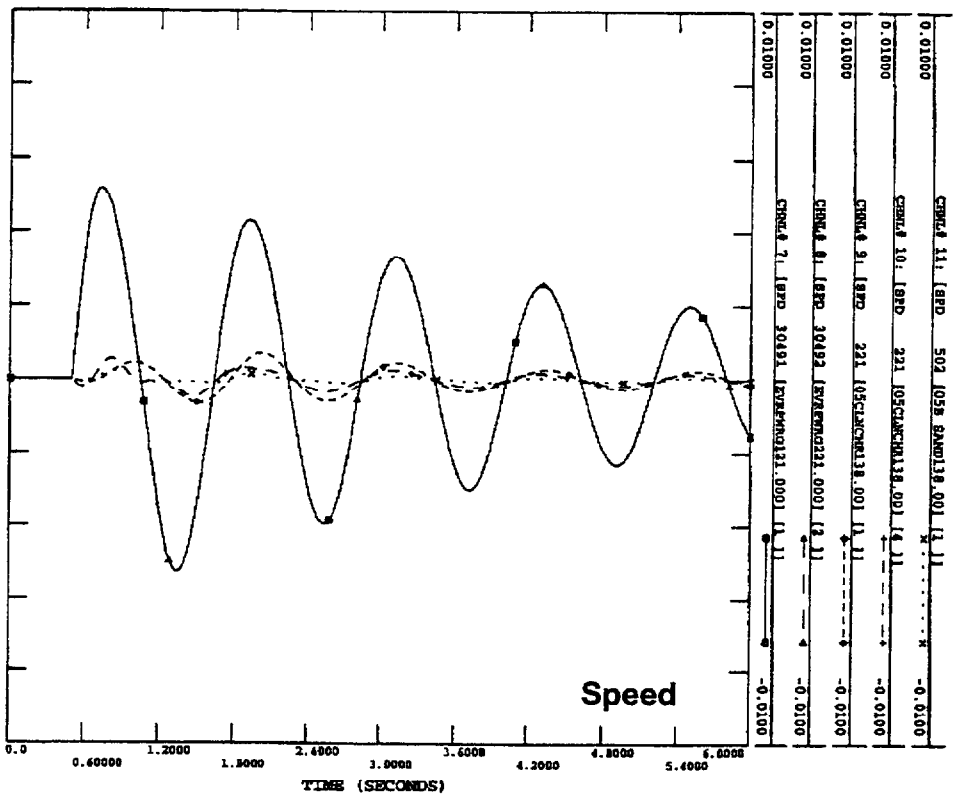


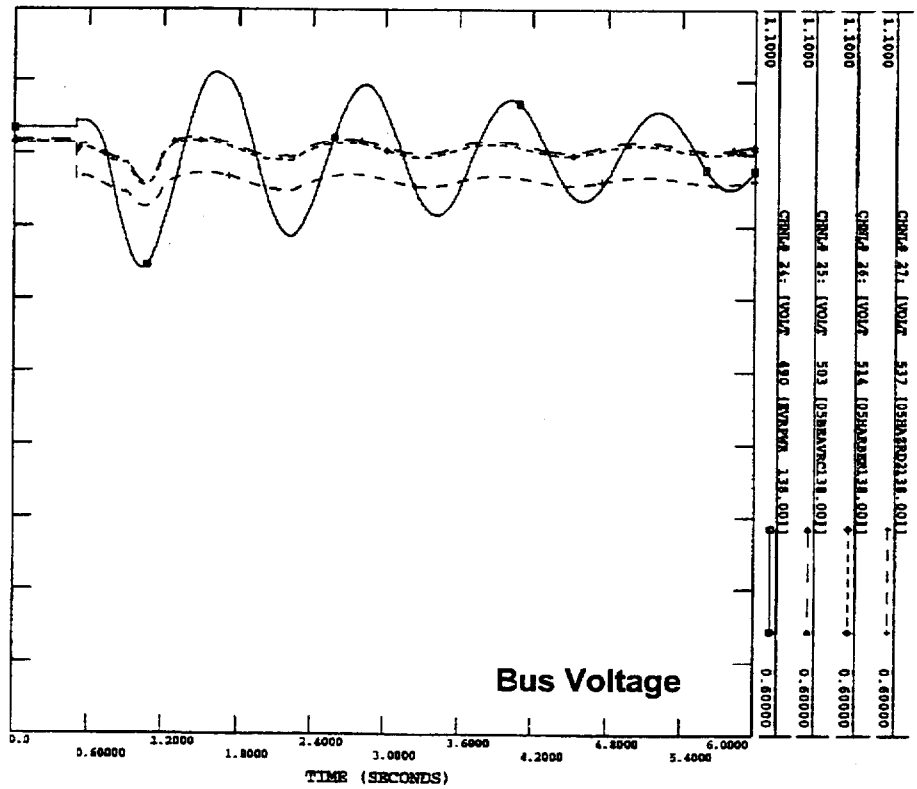
Case 7





Case 8





6.0 Economic Analysis

Introduction

The Kentucky Mountain Power Project will be located 8 miles N.E. of Hazard, Kentucky. The project will consist of two 250 megawatt CFB boilers feeding a single 500 megawatt steam turbine. The steam turbine will drive an electric generator supplying power to the AEP transmission system and beyond.

The construction of the Kentucky Mountain Power project will occur over a 4 year period. During the construction there will average 400-600 craft and contract workers on site. These workers will either be residents of the eastern Kentucky area or workers who temporarily relocate to the area for the term of the construction.

Once construction is completed the plant will operate on a 24/7 basis with a significant contingent of employees to operate and maintain the plant during the regular work days and a far reduced staff operating the plant on the night shifts and weekends.

Fuel supply for the project will be a combination of waste coal from various sites in the Eastern Kentucky area and run-of-mine fuel from mines adjacent to the plant site or very close to the plant site. Nearly 1,000,000 tons of waste fuel and almost 3,000,000 tons of run-of-mine fuel will be used annually. Fuel will be transported to the site by truck from both the waste fuel sites and the mines.

Limestone for sulfur removal will be provided from limestone mines located either in the Somerset area or the Pine Mountain areas of Kentucky. Nearly 500,000 tons of limestone will be required each year.

6.1 Economic Impact Summary

The overall economic impact of the project to the surrounding area will be significant. This impact will occur in two distinct phases, the construction phase and the operating phase.

The total capital expenditure for the project will be over $ 750,000,000. Typically 60% of the capital cost is materials and 40% is labor. Based on this distribution $450,000,000 will be spent on materials and $300,000,000 will be the labor component of the project. Using the recognized standards that for every dollar spent in a community there is a resulting additional two dollars generated in the community, the impact of the construction of the Kentucky Mountain Power project on the regional community will be quite large. Assuming that 50% of the labor dollars and 10% of the materials will flow through the local community the total economic impact on the community during the approximately three to four year construction period will be over $585,000,000.

The economic impact of the project on the community when in operation while not as large as the impact of the construction will still be significant. The operating budget for the project includes the following annual expenditures;

Annual Operating Payroll	$ 4,900,000
Annual Coal Expenditure	$33,000,000
Annual Limestone Expenditure	$ 4,900,000
Annual Parts and Material Expenditures	$ 6,500,000
Total	**$49,300,000**

Using the same standard of two dollars generated for every dollar spent the economic impact of the project when it is operating will be over $100,000,000.

The economic benefits generated by the construction and operation of the Kentucky Mountain Power plant near Hazard, Kentucky will be significant. These benefits will range from the scores of construction labor jobs generated during the 3-4 year construction period to the creation of a regional industrial park and development of a potable water supply plant with the possibility of delivering up to 5 million gallons of water per day to the adjacent communities.

6.2 Employment

Construction --

The Kentucky Mountain Power project will have a significant impact on local and regional employment. These benefits will accrue to the community both during construction and when the plant is in operation. The construction of Kentucky Mountain Power will take up to 4 years from start to finish. During the construction phase of the project there will be over 400 and as many as 1000 jobs created. These jobs will include craft labor jobs and project supervision and project management jobs.

Craft labor jobs will range from skilled positions such as foremen, boilermakers. pipefitters, electricians, millwrights, operating engineers, carpenters and concrete finishers to laborers. These positions will have significant salaries and corresponding benefits.

Experience has shown that many of these skilled craftsmen while not currently living in the Eastern Kentucky region consider this region as there home. It is expected that there will be a significant influx of construction labor returning home to the communities surrounding the plant during the construction period.

In addition to these skilled labor positions, there will be construction management positions including a Project Manager, Project Engineer and various support engineers, construction superintendents and construction managers. All total, there will be 30 or more of these highly paid positions during the construction period.

It is expected that the construction payroll for this project will be on the order of $150,000,000 or approximately $37,500,000 per year. Most of this payroll will flow directly to the Eastern Kentucky region in the form of housing, transportation, meals and other living expenses for the construction personnel.

During construction the operating crews for the power plant will be hired and trained. The majority of the operating personnel will be employed during the last year of construction. The construction payroll for these personnel will be on the order of $5,000,000.

In summary, the direct economic impact of the construction payroll for the project will be over $155,000,000.

Operations --
The Kentucky Mountain Power project will operate for 30 years or more. During the operation of the plant there will be ongoing jobs directly within the power plant as well as supporting jobs outside the plant including mining and fuel reclaim jobs, limestone supply and transportation jobs.

The ongoing operation and maintenance of the plant will be undertaken by an operating company. This company will have approximately 64 fulltime employees filling jobs ranging from the Project General Manager to plant operators to plant security personnel. The annual budget for the operation of the plant will be on the order of $5,000,000 per year.

The plant will be contracting for run-of-mine coal, waste coal and limestone. Estimates for the supply of these commodities indicate that there will be 50 truck drivers hired to transport the materials from their point of origin to the plant location. The annual expense for this transportation service is expected to be over $2,500,000.

On a regular basis, two week annually, two additional weeks every five years and for 30 days every 10 years the plant will undergo major maintenance. These outages will employ significant numbers of skilled craftsmen, the same ones as employed during the plant construction. It is expected that the annual labor cost for these outages and other outages will range from $1,000,000 to as much as $5,000,000.

Employment Impact Summary

Construction Labor –	$155,000,000
Annual Operations Labor –	$ 5,000,000
Annual Transportation Labor –	$ 2,500,000
Annual Craft Support Labor –	$ 1,000,000

6.3 Housing

The impact of the project on the regional housing market will occur in direct correlation with the manpower levels for the construction of the project and the operation of the project.

The construction of the project will generally impact two types of housing, higher priced single family rentals and lower priced housing such as motels, campgrounds and other types of multiple resident facilities.

The construction management team will consist of professionals such as engineers and specialized technicians. The majority of these individuals will relocate to the Eastern Kentucky region on a temporary basis. The core construction management team will consist of 25 to 30 professionals. Many of these individuals will bring families when the relocate. The will be seeking single family rental houses for periods ranging from 4 years to 9 months. Assuming an average rental for single family homes of $750 per months the rental paid by these positions will be over $500,000.

The plant operations positions will be filled by a combination of nationwide hires and local hires. It is expected that 12-15 of the 64 fulltime operations positions will be filled by power plant specialists. These specialists will relocate permanently to the Eastern Kentucky area. The balance of the positions, approximately 50, will be filled by local hires.

The 12-15 specialists will be seeking single family residences, generally on the higher end of the housing market. At an average cost of $150,000 these individuals will quickly inject over $2,200,000 into the regional housing market. The balance of the plant operating personnel will already have housing in the area.

The construction labor will find varied housing to fit its needs. This housing will range from rental trailers, campgrounds to motels. A quick analysis of this impact based on 1/3 of the 600 construction labor renting housing costing on the order of $10 per night, 5 days a week for a 4 year period results housing expenditures over $2,000,000.

In addition to the housing impact, considerable discretionary dollars will be spent by these employees in the communities for food, travel and entertainment as well as providing an incremental tax revenue base and tax revenues to the local governments to support the surrounding communities.

Housing Impact Summary

Construction Management Housing	20-30 residences	$500,000
Construction Labor Housing	200+ living spaces	$2,000,000
Operating Personnel Housing	12-15 residences	2,200,000

6.4 Industrial Park

As part of the development of the project Kentucky Mountain Power has agreed to donate to The Knott County Development Authority approximately 900 acres for development as an industrial park. This land is well suited to development of this nature as it is reclaimed mine lands which are generally level in nature. It is very likely that this industrial park will house industries generated as a result of the existence of the power plant. A preliminary layout of the industrial park has been prepared and is included in this document.

The development of the industrial park and the power plant is being supported by the development of a major heavy haul road and bridge from the existing Highway 80. The bridge

to be constructed by the State of Kentucky will begin adjacent to Highway 80 and span across Ball Fork Hollow. Kentucky Mountain Power will construct the balance of the heavy haul road from the bridge to the power plant entrance and the industrial park area.

6.5 Golf Course

An additional 250 acres of reclaimed mine property will be donated directly to Knott County for the development of a championship golf course. The course will consist of 18 holes, a clubhouse/pro shop, maintenance facilities and other facilities necessary for this type of facility. The cost to construct the golf course has been estimated at over $10,000,000.

6.6 Water System

A significant additional project associated with the power plant will be the construction of a water supply system to provide the power plant with makeup water in amounts of up to 8.4 million gallons per day. The water system will consist of a pumping station located on the North Fork of the Kentucky River, a 23 mile water supply line, a reservoir expansion, and a water treatment plant.

The benefits of the water treatment plant will be multifaceted. The cost of construction of the plant and associated facilities is $47,000,000. It has been estimated that up to 30% of this cost or $15,000,000 will be construction labor, as with the power plant construction much of this labor expenditure will end up in the local economy.

Once the plant is in operation the operating labor expenses will be on the order of $500,000 per year.

Far beyond the cost of the construction of the water treatment plant will be the ability to supply significant amounts of water to the surrounding communities of Knott, Perry and Breathitt Counties and the industrial park. The Kentucky Water Resource Development Commission has identified these counties as having the lowest level of access to public water in the state. Less than 50% of the households in Breathitt and Knott County have public water and less than 75% of the residences in Perry County. KMP is working with the Kentucky Infrastructure Authority and local communities to further develop the water resource of the project to determine ways to expand it to provide more water to the local community.

The water supply and treatment systems are currently sized to provide an additional 1,000,000 gallons of potable water per day beyond the requirements of the power plant. Using current standards this additional water supply will have the capability of supplying water to approximately 5000 residences.

An evaluation is being undertaken to determine whether it is practical to expand the supply and treatment systems so that an additional 4,000,000 gallons per day, bringing the total to 5,000,000 gallons per day, can be made available for residential and industrial use. In the event that this expansion is practical and economical there will be a capability to supply 25,000 residences as far away as Letcher County.

6.7 Fuel Supply

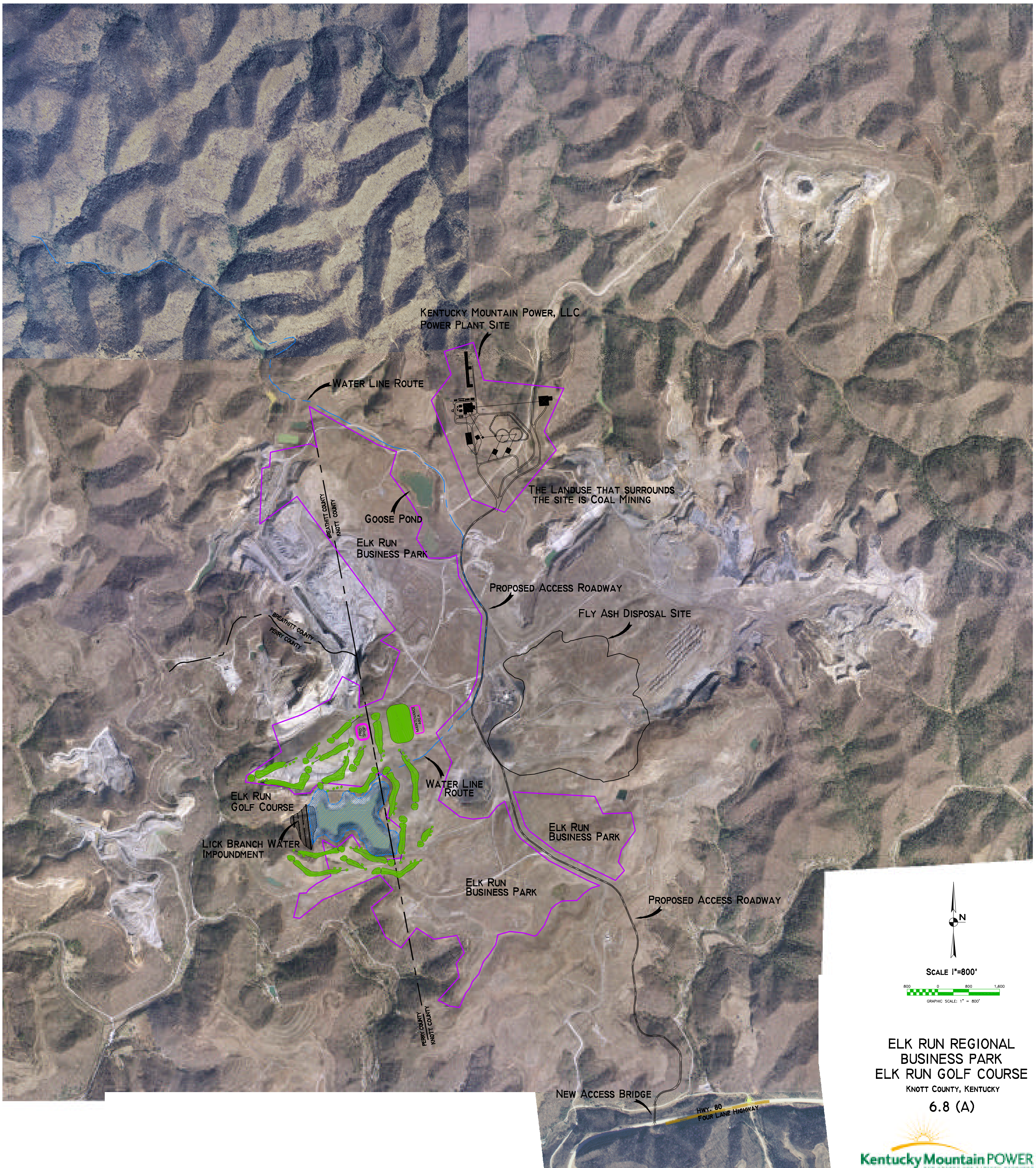
The Kentucky Mountain Power plant will be using 3,000,000 tons per year of run-of-mine coal and 1,000,000 tons per year of waste coal. This fuel will be in addition to existing fuel supplied by the mining operators in the region and will not offset any existing production. Production of this quantity of fuel will expand the depressed mining industry in the local area. The project's annual budget for fuel is over $33,000,000 per year. Most of this expenditure will be to local coal suppliers and will funnel directly into the local economy.

While difficult to quantify, economically, the environmental impact on the region resulting from the reclaiming and burning of waste coal piles and ponds will be significant. Kentucky Mountain Power presently has long term contracts or leases for waste coal from many sites. In addition, Kentucky Mountain Power is evaluating many additional sites as potential supplies of waste fuel.

6.8 Transmission Line

Engineers have estimated that the construction of this project will result in a significant reduction in line losses on the American Electric Power (AEP) system. Line losses are those losses that occur when energy is transmitted over long distances. Heat escapes from the conductors into the atmosphere resulting in power that is generated but lost and never sold.

The Kentucky Mountain Power plant is located in a remote section of the AEP transmission system which is poorly served by generating plants. It is estimated that when this plant becomes operational line losses on the AEP system will be reduced by 40 Mw. This essentially means that AEP gains back 40 Mw that could not previously be sold. Assuming a cost of $1500 per Kw to construct new generating capacity, the savings in line losses will offset $60,000,000 in capital costs to AEP. Additionally, this additional 40 Mw can be sold by AEP to its customers. At $28.00 per MwHr. this 40 Mw will result in additional annual revenue to AEP of over $9,000,000.



ELK RUN REGIONAL
BUSINESS PARK
ELK RUN GOLF COURSE

Knott County, Kentucky

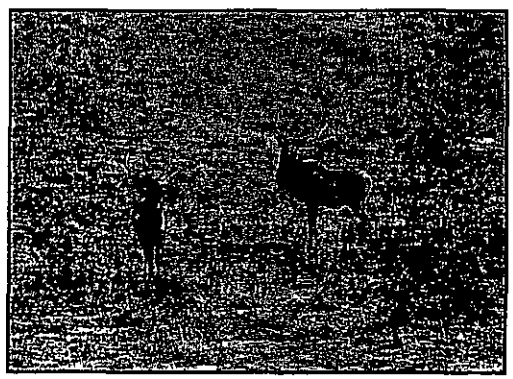
6.8 (A)

Kentucky Mountain POWER

Date: May 31, 2002
File: 986-02\18\Drawings\KMP Economic Impact Map.dwg

Site Assessment

for the



Elk Run Golf Course

Knott County, Kentucky

prepared by

JOHN L. CARMAN AND ASSOCIATES, INC.

November 27, 2001

I. Introduction

John L. Carman and Associates, Inc has been retained by the Commonwealth of Kentucky Division of Engineering to assess the feasibility of developing an eighteen hole golf course on the site of the Starfire Mine in Knott, Perry and Breathitt Counties. The development of the golf course will be in conjunction with the development of an electrical power plant and an Industrial Technology development located on the same site. Previously, the Industrial and Technology development quioned the name "Elk Run" primarily due to the site's use as a wildlife management area for an experimental elk herd that was previously released by the Kentucky Department of Fish and Wildlife Resources. To this end, the golf development will be referred to as the Elk Run Golf Course. Interestingly, elk population can be observed in the area of the proposed golf course.

Recently, the development of a coal waste electric generation power plant, located on the Starfire Mine site was announced by the power development company known as EnviroPower. In conjunction with the development of the power plant approximately 1000 acres of mostly reclaimed land has been allocated for Industrial/Commerce development and the development of a golf course. The 1000 acres will be transferred to the Commonwealth of Kentucky at the time of financial closure of the power plant. The Commonwealth of Kentucky will in turn transfer title to approximately 700 to 750 acres to the Knott County Development Authority and will retain the balance of acreage for the golf course. Preliminary planning has been previously completed for the Industrial Technology development, without consideration for the golf course. The golf course development will impact the previously planned industrial development, but with positive benefits.

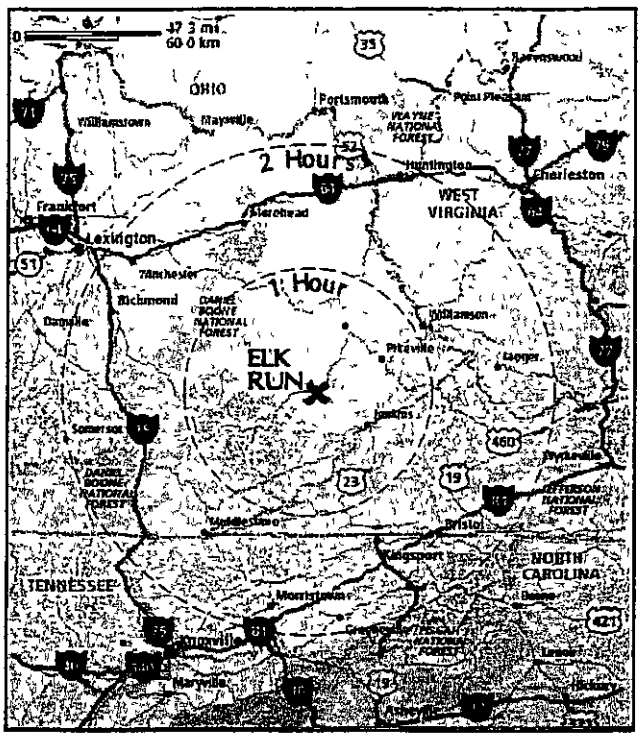
"Will the development of a golf course in conjunction with the development of other land uses be economically beneficial and will otherwise high development cost be somewhat offset through coincidental development?" is a question that this assessment report will address. Other factors such as location, site constraints and costs will also be explored in this assessment report.

II. Site Analysis

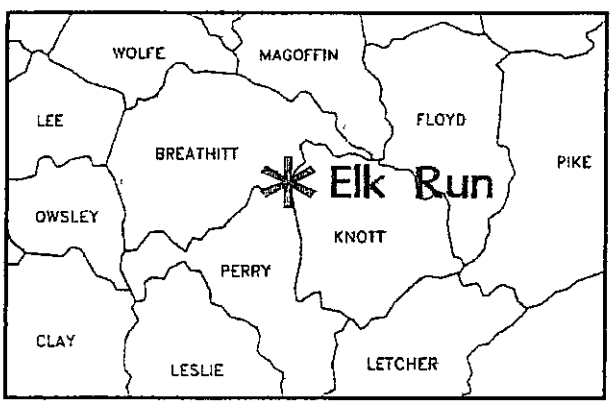
A. Location

The Starfire Mine site is located in the three counties of Perry, Knott and Breathitt. The approximately 4000-acre mine site is best accessed from Route 80 in Knott County. The site is located immediately adjacent to the University of Kentucky Robinson Forest Preserve. The area that has been dedicated for the Industrial/Technology and Golf Course Development is mostly in Perry County and is on ground that has been previously stripped mined and has previously been reclaimed.

The proposed location of the Elk Run Golf Course is within 2 – 2 5 hours from several significant population and travel routes in Kentucky, Virginia, and West Virginia.



Regional Map



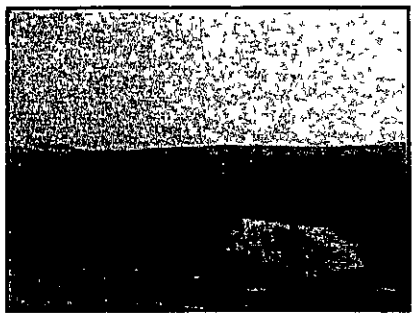
Site Relationship to Surrounding Counties

The following are travel times from various locations in the region

Lexington, Kentucky	2 hrs 15 min
Hazard, Kentucky	20 min
Prestonsburg, Ky/US Rte 23	40 min
Buckhorn Lake State Park	30 min
Jenkins, Kentucky	45 min
Whitesburg, Kentucky	35 min
Ashland, Kentucky	2 hrs
Huntington, West Virginia	2 hrs 15 min
London, Kentucky/I-75	1 hr 45 min
Mountain Parkway/1-64	1 hr 45 min

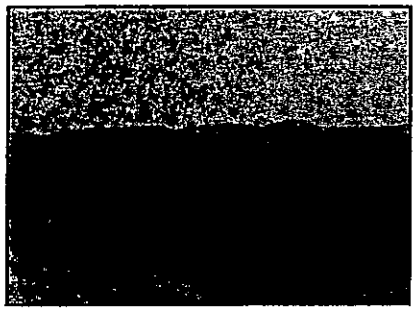
B. General Property Description

The area of the site selected for the golf course development lies on the southwestern edge of the property around a reservoir that was created for mining purposes This reservoir will actually be enlarged considerably in conjunction with the development of the electric power plant This section of the property offers not only views that are very good, but offer both actual and perceived hazards for golfing. Portions of the site lie in both Perry and Knott County



View of Existing Lake

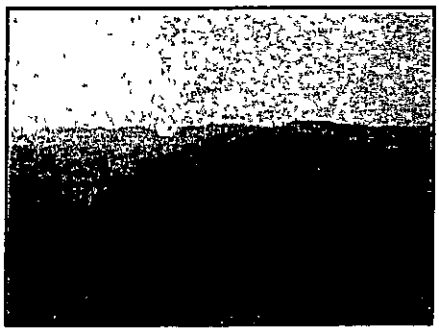
For the most part, the site that has been selected is on reclaimed strip mine land A small portion of the property is currently being reclaimed and reported to be fully reclaimed in the next 6 to 8 months On the surface the land is generally rolling and lies on two different terraces surrounding the north and east sides of the lake There is light vegetation, mostly grasses, on the surface The soils are typical mine spoils with little to no topsoil being contained on the surface Below the surface are typical reclaimed mine spoils consisting of large materials, rocks, and boulders The mine spoil has been placed in a hollow fill and ranges from 100 to 200 feet in depth



View of Reclaimed Areas

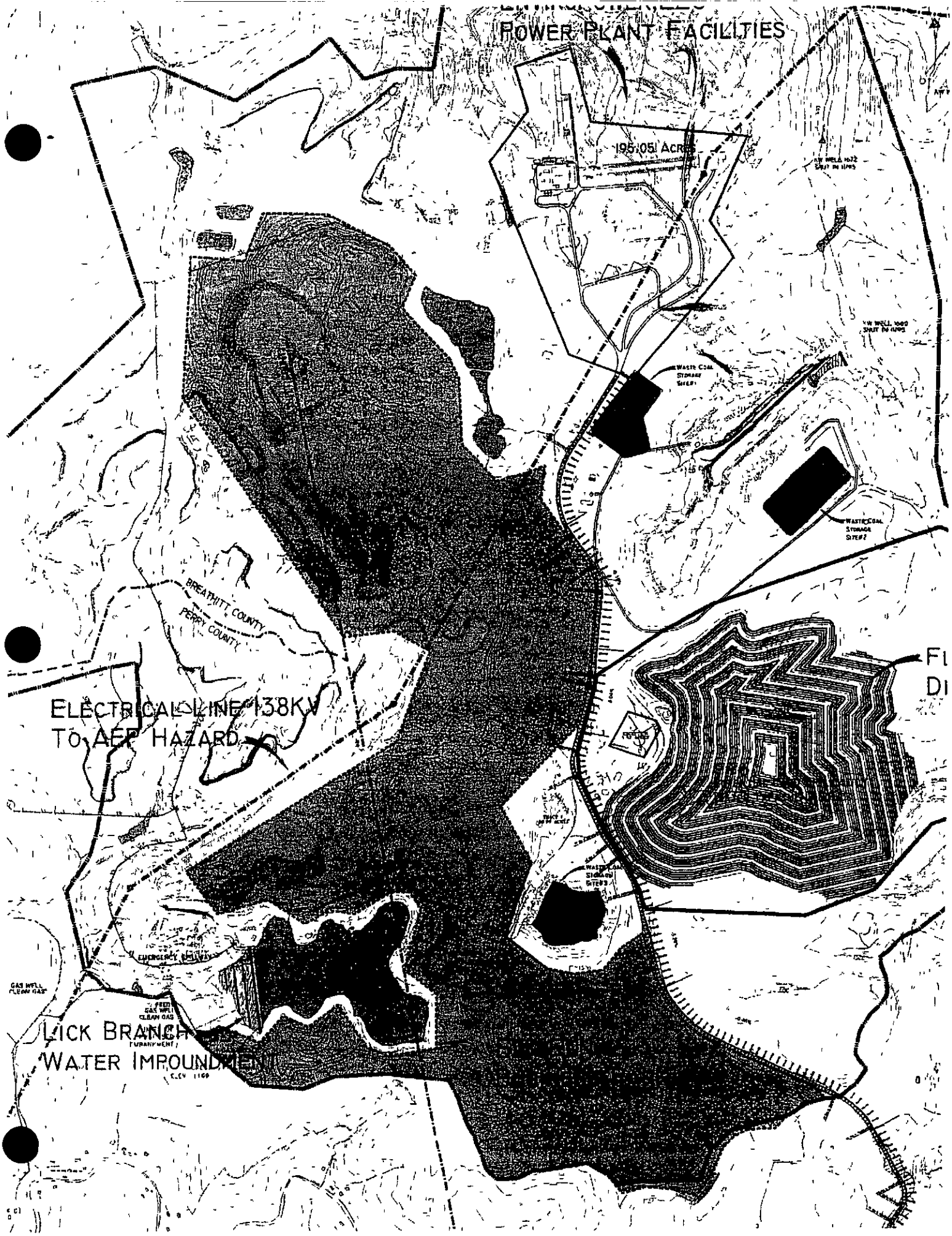
C. Mining Operations and Reclamation on the Starfire/Elk Run Site

The majority of the area being utilized for the golf course has been reclaimed and has a Phase III status with the Department of Natural Resources This would allow the reclamation bonds to be released for most of the areas Those areas that have not been fully reclaimed or have just recently been reclaimed will have to be reclassified on the mining permit for the post mining land use so that the reclamation bond releases can be accelerated Release of mineral and surface rights will be done in conjunction with transfer of title to the property



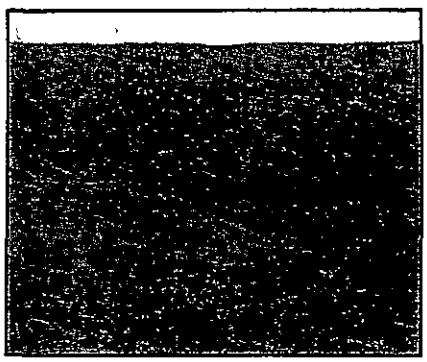
View of Unreclaimed Area of Site

The following Exhibit shows the area that has currently been designated for Industrial Technology and the Golf Course Development in relation to the Starfire Mine and the Power Plant location.


POWER PLANT FACILITIES
195.05 ACRES
BREATHITT COUNTY
PERRY COUNTY
ELECTRICAL LINE 138KV
TO AEP HAZARD
LICK BRANCH
WATER IMPOUNDMENT

D. Wildlife Management Area

In the winter of 1997 – 1998 the Kentucky Department of Fish and Wildlife Resources (KDFWR) released 200 elk on the subject site that has been a portion of the Cypress Amax Wildlife Management Area (WMA) The limits and boundary of the WMA can be re-designated through an agreement with KDFWR. The *reclaimed strip sites and availability of water resources* made the area a natural habitat for elk, which were once native to Kentucky as recently as the 1700's The elk population has definitely survived since that the initial release and elk can be observed on the site of the proposed golf course (the cover photo of this report are actual photos of elk on the site)



Elk on Site

The development of a golf course can continue to offer an environmentally friendly habitat for the elk, but the existence of elk on a golf course can be problematic The design of the course needs to consider the presence of elk and be conscious of the potential damage that elk can create to a fairway, greens, or tees. The presence of wildlife and even elk on or near a golf course is not unique and can be humanely and sensitively dealt with in the final development of a course There are models that can be used in dealing with the elk population around the Elk Run Golf Course

E. Description and Impact of Power Plant at the Starfire/Elk Run Site

The development of the electric power plant on the Starfire Mine site is the primary reason for the development of both the Elk Run Golf Course and the Industrial Technology Development In a partnered effort with EnviroPower and the Commonwealth of Kentucky, 1000 acres of land was provided to the State for economic development purposes Clearly, the development of a destination tourist attraction such as a golf course and the creation of jobs through industrial development will be an economic "shot in the arm" for the area

As part of the industrial development the State will provide access from Route 80 across the Ball Fork Hollow via a new bridge The new access road will then extend approximately 250 feet upward to the site of the power plant and the industrial/golf course development The distance to the golf course entrance is approximately 2 7 miles and the power plant is an additional 1.0 mile further north along the access road The power plant will be located approximately 1 25 miles northeast of the industrial and golf course development.

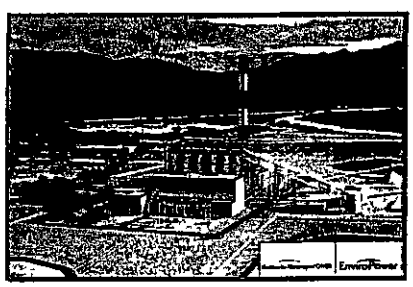


Illustration of Power Plant

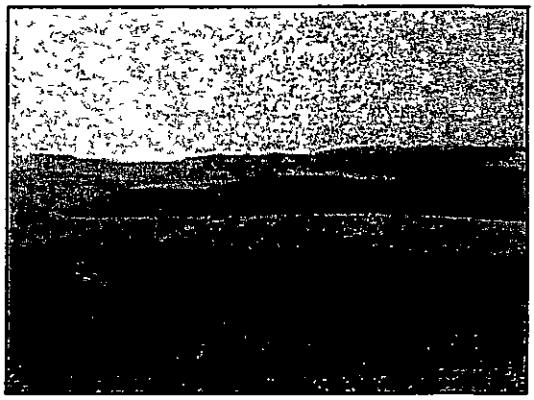
The power plant will be typical of an electric generating plant, as illustrated Other than it's visual qualities, there will be no negative impact to surrounding areas such as noise or air pollution that would be a detriment. There will be approximately 1,200 trucks on a daily basis entering and exiting the site, delivering materials to the power plant. There are peripheral support facilities on the site that are necessary for the operation of the power plant To the east of the industrial/golf course development on the opposite side of the access road will be an ash fill area. The area will be a landfill, of sorts, for spoil and refuse material from the operation of the power plant This ash fill area will be visible from the golf course but will have no impact on the operation or playability of the golf course The power plant will need a significant source of water for cooling purposes, thus the enlargement of the existing reservoir. The reservoir will be enlarged to be approximately twice its existing size and volume This reservoir will be recharged from a supply line fed by the Kentucky River under the operation of U S Filter Company The reservoir will be approximately 24 acres in surface area and will offer a great visual backdrop for the golf course in addition to being in play on several of the golf holes on both the front and back nine There is a possibility, to be determined at a later date that this reservoir could also be a supply for the golf course irrigation

III. Golf Course Development

A. Course Description

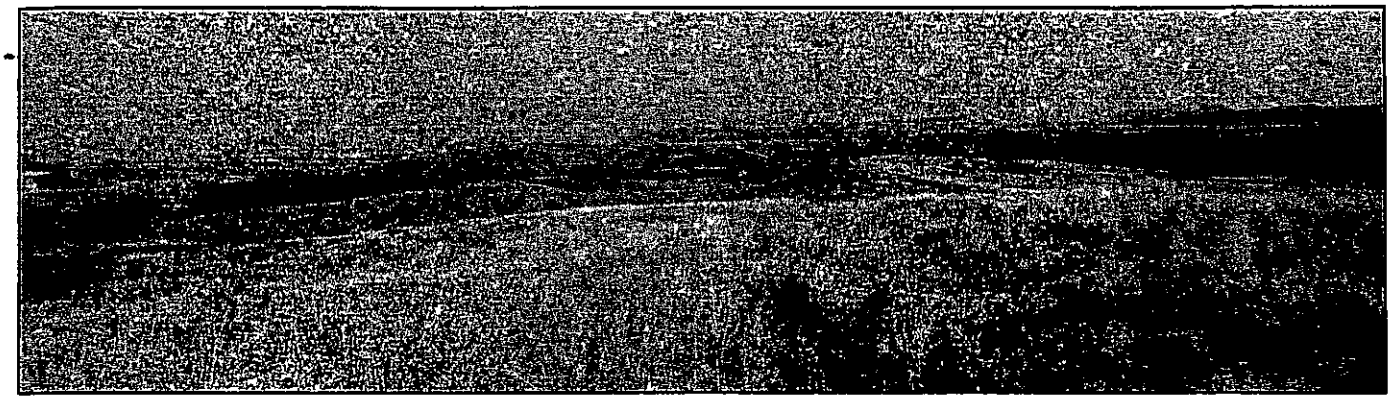
Based on the combination of areas already reclaimed, distance from the proposed power plant and proximity to views of the lake, the approximately 300 acres surrounding the lake present the best environment for a golf course on the Starfire Mine site. Because of the openness, the rolling terrain and views, the Elk Run Golf Course has great potential for a links type of course

Of primary concern is the location of the future Proshop for the golf course The possibility that this area could be expanded into a "clubhouse", operated under a lease arrangement with the State dictates it's location to be in Perry County due to the potential for alcoholic beverage sales To this end, the Proshop was sited in Perry County in an area that is easily accessible and visible The location of the Proshop began to dictate the routing of the golf course



View of Upper & Lower Plateau of Front Nine Holes

The golf course routing takes advantage of the existing lay of the land that will minimize grade work in the development of the course The exception to this occurs on the front nine holes, holes number three and four The location of these holes occurs on land that has not been fully reclaimed, although EnviroPower reports that



View of Area for Proposed Back Nine Holes

reclamation is currently on going and will be completed in mid-year of 2002 The routing of the front nine is a high-low routing on the two reclaimed benched areas The lower bench and particularly holes number 7 and 8 allow the proposed lake to come into play, both visually and as a potential boundary for a "sliced" hit, adding difficulty to these holes The back nine plays both high and low, also and utilizes the proposed lake to a greater extend with holes 10 – 13 taking advantage of the lake Holes 14 – 18 are routed on a higher plateau, still taking advantage of the existing relief of the land and views of the lake The preliminary master plan for the Elk Run Golf Course also sites a practice facility near the Proshop area and entrance to the course The Elk Run Golf Course Master Plan follows this section. The following is a proposed scorecard for the preliminary golf course routing that is presented in this site assessment report.

Hole #	Length (back tees)	Par
1	345	4
2	190	3
3	425	4
4	540	5
5	380	4
6	215	3
7	425	4
8	520	5
9	380	4
Out	*3420*	*36*

Hole #	Length (back tees)	Par
10	525	5
11	185	3
12	425	4
13	210	3
14	540	5
15	430	4
16	375	4
17	375	4
18	460	4
In	*3525*	*36*
Total	***6945***	*72*

B. Golf Course Facilities

The initial planning of the Elk Run Golf Course allows for a full compliment of support facilities and these are reflected on the preliminary Master Plan For planning purposes, this assessment has considered the need for a Proshop, a Cart Storage Building, a Maintenance Facility, a pump building at the proposed irrigation pond and two comfort

stations on the golf course. It is anticipated these facilities will be designed utilizing a similar design program for golf courses that are currently being developed for the Commonwealth of Kentucky and the budget summaries reflect the same.

EXCEPTION
5.82 ACRES
TRACT
WASTE COAL
STORAGE
SITE #3
Road
EMERGENCY SPILLWAY
LIMITS OF
PROPOSED
EMBANKMENT
CREST
ELEV. 1169
PERRY COUNTY
KNOTT COUNTY
SCORE CARD
HOLE LENGTH PAR
Total 6945 72
SCALE IN FEET

C. Golf Course Infrastructure

Basic infrastructure services necessary for the Elk Run Golf Course are a significant issue for the development of the course. While the basic services and utilities are "available", there is a significant cost and effort to extend the utilities and services to the site of the golf course. This site assessment has taken the most conservative approach and the degree of utility extensions and availability of services may be determined to be less when final design begins.

Irrigation Supply Water

While there is a large reservoir immediately adjacent to the golf course development, its advantages may be limited to visibility and creating hazards for the course. Because the primary purpose of the reservoir is to supply water for the power plant, there may be limitations on EnviroPower being able to supply water for the golf course. EnviroPower is under an agreement with U S Filter Company to develop the reservoir, supply water from the Kentucky River and operate the system. As the proposed golf course develops, the State should negotiate with U S Filter and EnviroPower to supply water for the golf course irrigation. In the interim, this site assessment has assumed that water for the golf course irrigation will have to be supplied by alternate means. For the purpose of this report, it is assumed that water will be made available from other water impoundments on the Starfire site to the north of the proposed golf course development. These impoundments are supplied by a variety of surface and groundwater sources and appear to be an appropriate source of water. Water from these impoundments will have to be pumped to a new irrigation supply pond that will be located on the front nine holes of the golf course. Costs for this supply system are reflected in the budgets for the golf course development.

Potable Water Supply

U S Filter Company is also under an agreement to treat raw water that is being withdrawn from the Kentucky River and stored at the Starfire site and supply potable water. The proposed treatment facility is reported to have the capacity to supply not only the power plant demands, but will also supply needs for the industrial technology development and surrounding, off-site residential customers. Extension of a potable water source from an assumed location on the Starfire site to the golf course has been planned and budgeted in this site assessment report.

Sanitary Sewers

Likewise with Sanitary Sewers, it is reported by EnviroPower that a Sanitary Sewage Treatment Plant will be developed in conjunction with the power plant. Its exact location has not been determined, although an extension length from the golf course development is assumed.

Electric and Telephone

Electric and Telephone service will also have to be extended to the golf course development site. Adequate services should be available necessary for the golf course.

Access Road

The golf course development will be on the western edge of the development and removed from accessibility of the road that will be developed to the power plant. Consequently, an access road will have to be constructed to serve the golf course. For the purposes of this assessment report, a simple 25' wide drive is planned and subsequently budgeted. The access road will have to be approximately 3800 feet in length.

Topsoil

Topsoil is usually not considered "infrastructure" but is vital to the success of the course and certainly supports successful turf management of the course. Since there is no adequate topsoil on the reclaimed mine areas, it must be imported into the site. This becomes a very critical, but not unique, issue and will obviously have a significant impact on the golf course budget. There have been no sites identified to obtain an adequate supply of topsoil that will cover 8 – 12 inches of the fairway areas on the entire course and the proposed practice area.

D. Golf Course Budgets

The ability to develop a golf course usually is dependent on availability of land and funds. This site assessment assumes that the adequate land is available and a legitimate budget for the Elk Run Golf Course has been developed in conjunction with both opportunities and constraints of this specific site on the Starfire Mine. The budget that is presented on the following pages assumes that the golf course development program is parallel with the six courses that are currently being developed. A B210 form is also included for the potential overall project cost.

The associated projected costs for the Elk Run Golf Course appear to be in-line with development and construction costs for other golf courses. For the sake of comparison, the following are costs of course construction for projects currently under construction. These costs comparisons are for the course only and do not include support facility costs, but do include infrastructure costs. The illustrated costs do not include "soft costs" such as surveying, mapping, planning, design, and construction administration, usually an additional twenty five percent of the construction costs.

Elk Run Golf Course (projected costs)	**$7,656,289.00**
Red Fox (projected costs for ten holes)	$4,127,900 00
Mineral Mound Golf Course	$3,351,842.00
Yatesville Lake Golf Course	$4,039,647 00
Dale Hollow Golf Course	$6,055,732.00

Probable Cost of Construction
Elk Run Golf Course

work description	unit	unit cost	quantity	extension	subtotal
General Conditions					
Mobilization	ls	$ 50,000 00	1	$ 50,000 00	
Clearing Staking	hrs	$ 95 00		$ -	
Rough Grade Staking	hrs	$ 95 00	40	$ 3,800 00	
Features Staking	hrs	$ 95 00	40	$ 3,800 00	
Finish Grade Staking	hrs	$ 95 00	40	$ 3,800 00	
As Built Survey	ac	$ 75 00	225	$ 16,875 00	
Quality Control	ls	$ 35,000 00	1	$ 35,000 00	
Temporary Office	mo	$ 250 00	12	$ 3,000 00	
Temporary Utilities	mo	$ 400 00	12	$ 4,800 00	
Superintendent	mo	$ 6,000 00	12	$ 72,000 00	
Golf Course Construction					
Clearing	ac	$ 2,000 00		$ -	
Silt Fence	lf	$ 2 00	11000	$ 22,000 00	
Temporary Silt Control	tn	$ 15 00	525	$ 7,875 00	
Strip Topsoil	cy	$ 1 50	14250	$ 21,375 00	
Excavation - Unclassified	cy	$ 3 00	360000	$ 1,080,000 00	
Drainage					
Major (>8")	lf	$ 15 00	3000	$ 45,000 00	
Field Lines (6")	lf	$ 7 00	7500	$ 52,500 00	
Exit Lines (4")	lf	$ 4 00	2500	$ 10,000 00	
Catch Basins	ea	$ 200 00	60	$ 12,000 00	
Headwalls/Endwalls	ea	$ 300 00	54	$ 16,200 00	
Greens Construction	sf	$ 4 00	114000	$ 456,000 00	
Tee Construction	sf	$ 1 20	75000	$ 90,000 00	
Bunkers					
Edging/Contouring	sf	$ 1 00	50000	$ 50,000 00	
Sand	tn	$ 30 00	975	$ 29,250 00	
Irrigation Heads					
Sprinklers	ea	$ 800 00	710	$ 568,000 00	
Irrigation Pumps	ea	$ 80,000 00	1	$ 80,000 00	
Planting Preparation	ac	$ 1,200 00	80	$ 96,000 00	
Shaping	hrs	$ 125 00	750	$ 93,750 00	
Topsoil Placement	cy	$ 7 50	140000	$ 1,050,000 00	
Seeding			-		
Fairways	ac	$ 1,500 00	82	$ 123,000 00	
Greens	sf	$ 0 15	114000	$ 17,100 00	
Tees	sf	$ 0 15	70000	$ 10,500 00	
Primary Roughs	ac	$ 1,000 00	18	$ 18,000 00	
Secondary Roughs	ac	$ 750 00	18	$ 13,500 00	
Sodding	sy	$ 2 25	40000	$ 90,000 00	
Germination	ls	$ 30,000 00	1	$ 30,000 00	
Cart Paths					
8' width concrete	lf	$ 11 00	40000	$ 440,000 00	
Curbs	lf	$ 12 50		$ -	
Ridges	lf	$ 700 00		$ -	

Work description	Unit	Unit cost	Quantity	Extension	Subtotal
Irrigation Pond				$ -	
Excavation	cy	$ 3 00	90000	$ 270,000 00	
Liner	ls	$ 150,000 00	1	$ 150,000 00	
				$ -	
				$ -	$ 6,572,960.00
Infrastructure					
Water Main Extension & Transfer Pump Sys	ls	$ 353,000 00	1	$ 323,000 00	
Sanitary Sewer Force Main	lf	$ 12 00	8000	$ 96,000 00	
Sanitary Sewer Pump Stations	ea	$ 10,000 00	3	$ 30,000 00	
Telephone	lf	$ 11 00	4000	$ 44,000 00	
Primary Electric Service	ls	$ 12 00	4000	$ 48,000 00	
Electric Service to Comfort Sta /Pump Hse	lf	$ 11 00	11000	$ 121,000 00	
2" Force from Comfort Stations	lf	$ 10 00	11000	$ 110,000 00	
Water to Comfort Stations	lf	$ 6 00	11000	$ 66,000 00	
				$ -	
Access Road				$ -	
Grading	cy	$ 3 00	18000	$ 54,000 00	
Drainage	ls	$ 25,000 00	1	$ 25,000 00	
Pavement	sy	$ 15 00	11500	$ 172,500 00	
					$ 1,394,560 00
Estimated Subtotal				$ 6,224,625 00	
Overhead and Profit/Markups	22%			$ 1,369,417 50	
Bond	1%			$ 62,246 25	
Estimated Grand Total				**$ 7,656,288.75**	
Support Facilities					
Proshop	ls			$ 265,000 00	
Maintenance Building	ls			$ 200,000 00	
Cart Storage	ls			$ 200,000 00	
Pump Building	ls			$ 28,000.00	
Comfort Station	ls			$ 96,000 00	
Shelters	ls			$ -	
Facility Site Development	ls			$ 330,000 00	
Estimated Subtotal				$ 1,119,000 00	
Overhead and Profit	22%			$ 246,180 00	
Bond	1%			$ 13,651 80	
Support Facilities Total				**$ 1,378,831.80**	

FINANCE AND ADMINISTRATION CABINET					
DEPARTMENT FOR FACILITIES MANAGEMENT					
TOTAL PROJECT COST ESTIMATE					
PROJECT DESCRIPTION			REFERENCE DATA:		
Elk Run Golf Course			C O. No		
			Div Of Eng File No TPMM0010		
			Acct No 00-0200-785-6Y-379-0379-EN004-00-		
			Prepared By.		
			Joe Meyer, Associate Director		
			Division of Engineering		
			Finance and Administration Cabinet		
Agency: Finance			Date December 6, 2001		
Site / Aerial Survey					$ 80,000
Subsurface Investigation					$ 50,000
Architect-Engineer Fee			10	%	$ 903,512
Review Fees					6,894
Electrical Insp Fee @	1	% x	########		$ 15,313
Resident Inspector Salary	12	Mos @	$5,500	per mo	$ 66,000
Duplication of Plans, etc					$ 20,000
				Subtotal	$ 1,141,719
Design Contingencies @	10	%			$ 114,172
TOTAL (701) FUNDS REQ					$ 1,255,891
Construction Cost 18 Hole Golf Course.					$ 7,656,289
Support Facilities include the following					$ 1,378,831
Proshop					
Maintenance Facility					
Cart Storage					
Pump Building					
Shelters					
Facility Site Development					
				Subtotal	$ 9,035,120
Contingencies @	10	%			$ 903,512
TOTAL (703) FUNDS REQ					$ 9,938,632
712 Funds					
Maintenance Equipment					$ 350,000
Golf Carts					$ 250,000
TOTAL PROJECT SCOPE					$. 11,794,523

IV. Plan of Action

This site assessment report has determined that a viable golf course can be developed at the Elk Run site. Certainly there are many issues that need to be addressed before final planning, design, and construction can occur at this site. First and foremost is the final determination that the EnviroPower Electric Plant will be constructed. Once the power plant project proceeds to financial closure and into construction, the State should begin coordinating and working towards resolution of various issues for the golf course. The following are various issues that will have to be addressed as soon as practical to further ascertain timing and scheduling for the Elk Run Golf Course development.

Final Determination of Development Limits

Prior to final transfer of the development area, coordination between the State and EnviroPower should occur to finalize the exact boundaries of development for the golf course. While John L. Carman and Associates, Inc. has had numerous discussions with EnviroPower concerning the proposed golf course; the results of this report should be reviewed and accepted by EnviroPower.

Mine Reclamation

This site assessment assumes, based on discussions with EnviroPower, that portions of the proposed course currently unreclaimed, will occur in the near future. Since a framework for a proposed course has been developed as part of this assessment study, the reclamation should occur to be compatible with the future golf course. The State should begin coordinating these reclamation efforts in keeping with the golf course development.

Irrigation Water Source

As soon as practical, the State should begin negotiating with EnviroPower and U S Filter to have the ability to use water from the large reservoir adjacent to the proposed golf course. The amount of water used for the golf course would be negligible compared to the volume stored in the reservoir. Utilization of this water could be a considerable savings to the golf course development.

Topsoil

Sources of topsoil should be identified early in the process of planning and design of the golf course since its availability is critical to the success of the course. This assessment report assumes that topsoil will be available at a reasonable cost.

Reclamation Bond and Mineral Rights Release

The State needs to begin coordinating with EnviroPower the release of all Reclamation Bonds and redesignation of Post Mining Land Use on the Mining Permits. In addition,

all mineral and surface rights need to be released and/or transferred in conjunction with transfer of title of the property.

Redesignation of Wildlife Management Area

State agencies should assist EnviroPower in their negotiations to redesignate the boundaries of the Cypress Amax Wildlife Management Area.

Pre-loading of Building Sites

Although geotechnical studies have not been done as of yet for the site, it is assumed that typical reclamation and deep fill conditions exist on this site. To this end, there is a good probability that underlying fill material in areas of building sites may not be stable due to type and depth of fill material. It is understood that there will be excess material as a result of the access road construction. The State should coordinate with EnviroPower the placement of a portion of this excess material on sites of proposed buildings. This preloading over a lengthy period will help stabilize the fill material and possible may reduce the need for deep foundations.

Coordination with Knott County Development Authority

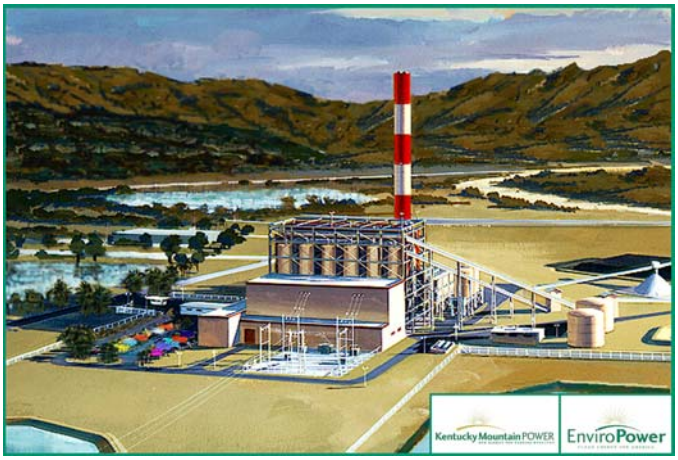
The golf course should be closely coordinated with the planning and design efforts of the Industrial Technology development. The Knott County Development Authority is the agency that will be coordinating the development of this portion of the property. Shared costs for utilities and access roads may be a cost savings to both the golf course and the remaining development area. John L. Carman and Associates, Inc. in conjunction with Nesbitt Engineering is the planning, design, and engineering consultant for the Knott County Development Authority.

At some point in the process, probably earlier than later, the planning and design efforts should begin for the course. A golf course design consultant can assist the State in resolution of issues associated with the development of the Elk Run Golf Course. The planning and design in itself is at least a 12 month effort from the procurement process to completion of construction and bidding documents.

7.0 Disclosure of Past Violations

Kentucky Mountain Power, LLC is a wholly owned subsidiary of EnviroPower, LLC. EnviroPower, LLC has no violations of federal or state environmental laws, rules or administrative regulations whether judicial or administrative, where the violation would have resulted in criminal convictions or civil or administrative fines exceeding $5,000. There are no violations pending.

8.1.0 Introduction



Kentucky Mountain Power, LLC is a subsidiary of EnviroPower, LLC formed to build the Kentucky Mountain Power Project (Project) located on a reclaimed mine site approximately 8 miles NE of Hazard, Kentucky. The Project will be a 2x260 MW circulating fluidized bed boiler plant supplying steam to a single 520_{net} MW turbine-generator. The Project will use a combination of waste-coal and run of mine coal from the local area. The Project has secured land, water, fuel and transmission capacity necessary for the operation of the plant. Permitting for the Project is complete.

Water Supply for the facility will be supplied by a major regional water system to be constructed as a part of the power project. The water system will include an intake and pumping station located on the North Fork of the Kentucky River, a 22 mile water line, a 1.4 billion gallon water storage reservoir and a water treatment plant. The water supply system is sized to provide an additional 1,000,000 gallons per day, beyond the requirements for the power plant for the industrial park and residential use. There is a possibility that this additional capacity could be increased to 5,000,000 gallons per day. The water withdrawal permit for the plant limits the withdrawals from the Kentucky River during low flow periods. Water will be pumped from the river during high flow periods such that minimum river flows will be maintained.

The Project will include the development of a major industrial park in conjunction with the State of Kentucky and the surrounding counties. The industrial park will include approximately 800 acres designated for industrial development and 300 acres designated for a golf course.

Highway access to the site will be improved through a cooperative effort of Kentucky Mountain Power, LLC and the State of Kentucky and Knott County. The State of Kentucky will be constructing a new intersection on Highway 80 and a heavy haul bridge from the new intersection across Ball Fork Hollow. Kentucky Mountain Power, LLC will excavate the roadbed and prepare a heavy haul road from the bridge to the plant site and the industrial park.

The Project will interconnect with the American Electric Power 138,000 volt transmission system at a new switching station located on the power plant property. The switching station and the transmission lines and transmission line upgrades will be constructed by Davis H. Elliott Construction Company and American Electric Power. Once the switching station and transmission lines are completed they will be owned and operated by American Electric Power.

Natural Gas for the project will be provided by Equitable Energy, LLC. Equitable will construct a 6 inch gas main from their transmission system to the Kentucky Mountain Power site.

8.2.0 Description of the Facility

Project Location
The site of the project is located in Knott County Kentucky approximately 8 miles N.E. of Hazard, Kentucky. The location is the site of the Starfire mine, the largest strip mine in the Eastern USA. KMP has, in place, a lease for 4000 acres on the site for the construction of the plant as well as the industrial park and golf course. The plant will be located on a 195 acre portion of the site known as Potato Knob

The Project is expected to have a commercial operation date of May 2006.

The Project will be interconnected to the American Electric Power (AEP) 138KV transmission system at two locations, the Beaver Creek substation and the Hazard Substation. The Project is located in the East Central Area Reliability council area (ECAR). Via the AEP transmission system the Project can access the Mid-American Interconnected Network (MAIN) and the Mid-Continent Area Power Pool (MAPP) and TVA.

Fuel Supply
Given an expected average annual operation of the Plant of approximately 8,132 hours per year, the average annual fuel usage for the Project is estimated at 3.9 million tons/year at an average heating value of 5,306 Btu/Lb).

The Project is located on, and adjacent to, substantial waste coal deposits. Fuel will be supplied primarily by an affiliated company, EnviroFuels, that has begun entering into arrangements including leases and access services agreements on specific sites that contain over 46.9 million tons of waste coal. Primary fuel for the Plant will be comprised of at least 65% waste coal and no more than 35% raw run of mine coal. The current fuel plan identifies sufficient waste coal and low BTU mined coal to fuel the Plant for at least 30 years assuming an annual fuel need of approximately 3.9 million tons per year. EP, through EnviroFuels, has at least 20 years of this fuel under its control. The controlled coal is a combination of: (i) multiple long-term waste coal and low BTU mined coal supply agreements (delivered to Plant site), (ii) multiple waste coal access and removal contracts, and (iii) low-BTU mined coal leases. The latter two categories require removal and mining, respectively, by EP or third party contract mining operators under contract to EP.

Project Design

The Kentucky Mountain Power design will be a 2x260 MW configuration with two circulating fluidized bed boilers providing steam to a single 520 MW_{net} steam turbine-generator. The fuel supply to the Project will be a combination of waste coal and run of mine coal. The plant is expected to have a heat rate of 9790 BTU/Net KWHr and operate at an annual capacity factor of 92%.. Emissions from the plant will be controlled both within the CFB boiler, by an SNCR and an add-on Flash Dryer Absorber. The project will also include the auxiliary systems necessary

for the storage preparation of the run of mine coal and gob for use in the boilers, storage and preparation of the limestone sorbent, removal and ultimate disposal of the ash and other functions typical of a power plant of this magnitude.

Key design and operating data is outlined in the following table:

Gross Plant Output	585 MW
Net Plant Output	520 MW
Main Steam Flow at Turbine Inlet	1,933,223
Main Steam Pressure at Turbine Inlet	2400
Turbine Heat Rate	7433 btu/kwhr
Boiler Efficiency	81.7%

Each of the plant systems is discussed in more detail in the following;

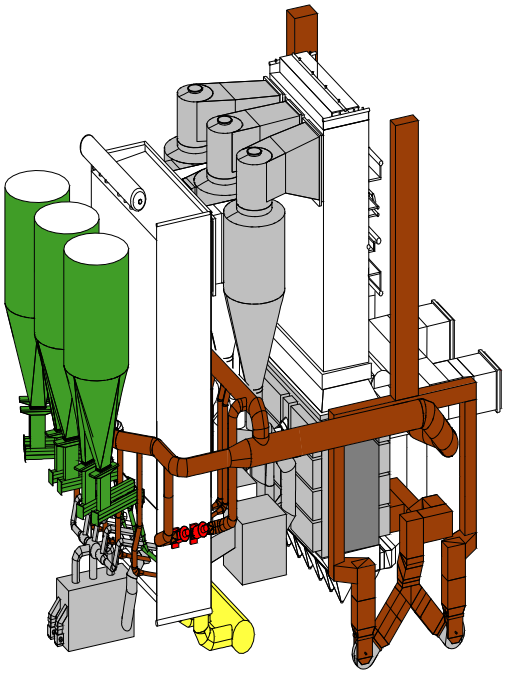
Fuel Handling

Fuel for the plant will be received by truck. Fuel delivery is intended to occur primarily during the daylight hours. As the fuel enters the plant there will be a scale house with scales for both incoming and outgoing trucks. In addition, there will be an auger sampling system for sampling individual trucks on a random basis. There will be separate receiving systems for gob and for run-of-mine coal. At the receiving area the fuel will be reduced in size from a maximum of 12" x 12" to approximately 4" x 0" by a primary crushing system. This crushed coal will be stacked out into a covered storage area containing 44,000 tons of fuel. From the covered storage area the fuel will be reclaimed by an automatic portal reclaimer. From the portal reclaimer the fuel will be transported to the secondary crushing facility. In this facility the fuel will be screened on a Bivitech 3/8" x 0" screen with larger material being crushed two 700 T/Hr, Penn Crusher "Coalpactors" and discharged on the final belt. Fine waste coal, silt, will be added to the process at this point. The fines will be stored in a two day covered storage area. From the storage area the fines will be loaded by a front-end loader into a 300 T/Hr. breaker and shreader. This material will then cross a 2" scalping screen. The resulting product from the silt system will combine with the material from the secondary crushing and be transported to a tripper system feeding the boiler fuel silos.

Boiler Systems

The boiler system will consist of two circulating fluidized bed boilers with superheat and reheat. Below is a schematic drawing of a single CFB boiler. While this representation is not arranged exactly like Kentucky Mountain Power it is representative. Each boiler will be capable of sustaining the plant at over half the net output. The boiler systems will include natural gas start-up burners. There will be four fuel silos for each boiler, each silo receiving the same quality fuel. Two feeders will withdraw fuel from each silo (for a total of 8 fuel feed points) and convey it to the front wall of the boiler to fuel feed chutes. The plant will be capable of full load on the

worst case fuel with one feeder out of service. Limestone will be introduced into the same fuel feed chute from a pneumatic limestone transport system. Primary air will be introduced into the boiler via nozzles in the boiler operating floor with secondary air entering through ports located in the boiler walls. The boilers will have pendant superheater surface. There will be three cyclones on each boiler. The cyclones will be refractory lined. The boiler back pass will include primary and secondary superheaters, reheaters and economizer. Air heating will occur in a conventional Lungstrom regenerative airpreheater. Final sulfur removal will occur in a dry scrubber system followed by a baghouse. Centrifugal induced draft fans will discharge into separate flues located inside common chimney.



Final reheat will occur in a fluid bed heat exchanger through which a portion of the bed ash will be circulated.

Fluid bed ash coolers (FBAC) will be used for bottom ash cooling before transport by the bottom ash removal system. There will be two FBACs per boiler. Each capable of handling 80% of the total projected bottom ash flow on the worst case fuel. There will be two ash transport lines from each FBAC each capable of handling 100% of the discharge from the FBAC. Heating surface in each fluid bed ash cooler will include economizer surface as well as closed cooling water surface.

Emissions Control Equipment

The Project will be designed and built as one of the cleanest coal-fired generation facilities in the United States. The PSD, Title V and Phase II Acid Rain permit to construct, permit number V-00-045, was issued by the Kentucky Division for air quality on May 4, 2001.

The plant will use Best Available Control Technology (BACT) consisting of the circulating fluidized bed boiler (CFB), a flash dryer absorber scrubber (FDA), a fabric filter system (baghouse) and a selective non-catalytic reactor.

Limestone Handling

The raw limestone will be 2” x 0” stone delivered to the plant by highway trucks. The limestone will be dumped into a covered storage area with a capacity of 10,000 tons. The stone will be loaded into the limestone handling and processing system by front-end loader. There will be two limestone pulverizers, Raymond pendulum type, each capable of producing 80 tons per hour.

Natural gas will be used to heat input air to the pulverizers for drying the limestone. It is expected that limestone preparation will typically be done on a 12 hours per day basis.

Finished limestone will be pneumatically conveyed from the pulverizers to the finished limestone storage silos, located adjacent to the fuel storage silos. There will be two finished limestone silos per boiler. Each silo will feed, via a rotary valve, to a pneumatic limestone transport system. Each limestone transport system will feed to four of the eight front wall limestone/fuel feed points. Each limestone feed system (IE: four feed points) will be capable of supplying 100% of each boiler's limestone consumption on the worst case fuel.

Turbine Systems

The output of each boiler, superheated steam and reheat steam will be headered together to supply a single steam turbine/generator (TG). The steam turbine will be a four cylinder; one single flow high pressure turbine; one double flow intermediate pressure turbine and two double flow low pressure turbines rated at a main steam flow of 1,933,223 lbs./hr., 2400psi $1000^{o}F/1000^{o}F$. The generator will be a single 660 MVA hydrogen cooled generator with a gross output of 585 MW at 22KV. Operating backpressure will be 2.25"hg.

The turbine will also be provided with a 20% bypass system to facilitate startup and placing individual boilers on and off line.

Circulating Water System

There will be two 50% vertical circulating water pumps supplying the circulating water system. Cooling towers will be multi-cell mechanical draft wooden towers with PVC fill.

Balance of Plant

There will be a single feedwater and condensate system feeding to both boilers. There will be 5 low pressure feedwater heaters and two high pressure feedwater heaters.

Redundancy in the condensate and feedwater systems will be accomplished through the use of uninstalled spares. There will be two 50% (one per boiler) condensate pumps, two 50% (one per boiler) barrel type boiler feedwater pumps.

Air will be supplied by two 100% screw type air compressors.

Water Supply System

The Kentucky Mountain Power approach to supplying water to the plant will have significant benefit to the surrounding communities. The lack of potable water is a continuing problem in Eastern Kentucky.

Under a long-term water facilities agreement, the Project will contract with US Filter, a wholly-owned subsidiary of Vivendi Environment, S.A., to construct and to operate the water supply system over a 20-year period to supply water to the site and take and treat waste water discharges.

The Kentucky Division of Water issued Water Withdrawal permit numbers 1478 on March 30, 2001, which authorizes the withdrawal of water from the North Fork of the Kentucky River and the Lick Branch Fresh Water Impoundment. Under the water withdrawal permit the project will be limited in the amount of water that can be withdrawn from the river as shown in the following table. In no case will the plant be allowed to withdraw water from the river if that withdrawal would reduce the river flow to 20.0 cubic feet per second or less.

Jan.	10.0 MGD	April	14.4 MGD	July	5.8 MGD	Oct.	6.0 MGD
Feb.	14.4 MGD	May	14.4 MGD	Aug.	5.6 MGD	Nov.	9.8 MGD
Mar.	14.4 MGD	June	9.3 MGD	Sept.	2.4 MGD	Dec.	12.6 MGD

The Department of Army Corps of Engineers issued a Section 404 permit under Nationwide Permit Number 12 on June 21, 2001 for construction of a water intake structure in the North Fork of the Kentucky River. This permit also includes the water pipeline extending from the North Fork of the Kentucky River to the Project site. The Section 401 Water Quality Certification issued by the Kentucky Division of Water is also incorporated into Nationwide Permit Number 12.

A pumping station will be constructed on the banks of the North Fork of the Kentucky River. From the pumping station a 22 mile, 30 inch in diameter, ductile iron water line will be constructed to the plant. The water line will terminate at a 1.4 billion gallon water reservoir located adjacent to the plant site. The water system is designed to provide the power plant water needs as well as potable water to surrounding residents and to a regional industrial park located on property donated by the project to the State of Kentucky and local counties.

Electrical Transmission System

The power generated by the Kentucky Mountain Power project will be sent to the Kentucky Power high voltage transmission system via a new switching station to be constructed on the plant property. Davis H. Elliott Construction Company and American Electric Power will construct the switching station and approximately 40 miles of 138KV transmission line from the plant site to existing substations. Once completed the switching station and transmission lines will be owned by American Electric Power.

The transmission lines will provide a means to move the power generated by the project to the power markets in the Midwest and East. The power generated by KMP and placed on the Kentucky Power grid in eastern Kentucky will also relieve transmission line congestion in the region reducing line losses by approximately 40 MW, providing 40 MW of additional electricity on the national grid at absolutely no environmental impact or cost to consumers.

State of Kentucky Support

Industrial Park

The Project will donate to the State of Kentucky a total of 1250 acres of land located on the Starfire site adjacent to the power plant. The State intends to use this land to develop an industrial park and golf course. As part of the industrial park development the State has committed to construct a new heavy haul bridge and road from Kentucky highway 80 to the plant site. The Project will be responsible for a portion of the excavation for the road while the State and County will be responsible for the bridge construction and finish grading and paving of the road.

UTILITY LEGEND

AEP 138 KV TRANSMISSION LINE

EQUITABLE 8" NATURAL GAS LINE

KENTUCKY MOUNTAIN POWER
POTATO KNOB PLANT SITE

AEP HARBERT SUB-STATION

AEP CONSOL TAP

AEP BEAVER CREEK
SUB-STATION

NEW AEP HINER SUB-STATION

AEP HAZARD SUB-STATION

Continue on Page 72

1" = 2.4 mi (3.8 km)

GRAPHIC SCALE: 1" = 2.0 miles

SELECTED UTILITIES
PROPOSED ROUTE

8.2 DESCRIPTION
OF THE FACILITY

Kentucky Mountain POWER
NEW ENERGY FOR EASTERN KENTUCKY

Date: May 31, 2002
File: 986-02\18\Drawings\Large Scale Map\Powerlines.dwg

8.3.0 Property Description

The plant site is located at 37°25'21"N and 83°06'52" W. Included with this assessment is a detailed aerial photograph showing property features.

8.3.1. Surrounding Land Use

The Kentucky Mountain Power project site is on property that has been and continues to be operated by the Starfire Mining Company as a surface coal mine. This mine has the distinction of being the largest surface mine in the eastern USA.

The adjacent properties to the Kentucky Mountain Power, LLC leasehold boundary are all permitted for surface mining, except for a single parcel located to the northeast of the property. This parcel is owned by Appalachian Realty, a coal minerals company. It is expected that this parcel will be permitted for mining activities in the future.

8.3.2. The Legal Boundaries of the Proposed Site

The plant location lies within an area of 4000 acres that Kentucky Mountain Power, LLC holds under lease from Appalachian Realty Company. A copy of the lease is included in the Appendixes. Within the leased area Kentucky Mountain Power, LLC has options to purchase from Appalachian Realty approximately 1993 acres. This acreage includes 195 acres surrounding the power plant proper which is the "site" as defined in SB 257, 544 acres at the ash disposal area and 106 acres at the water storage reservoir area (with an additional 62 acres under option from Vera Salyer for the water storage reservoir) and approximately 1150 acres for the industrial park, golf course and road. The optioned properties indicated on the attached aerial photograph. Copies of the property descriptions are included in the appendixes.

8.3.3. Proposed Access Control to the Site

Access to the property will be via the new heavy haul road and bridge from Highway 80. The road from Highway 80 to the power plant proper boundary will be a public county road. The location of this road is detailed on the site drawing.

At the entrance to the power plant there will be a security building manned 12 hours per day with security cameras and cardkey access during the off hours and weekends. Only authorized personnel will be allowed to enter the plant property.

The power plant facility will be completely surrounded by a cyclone wire fence, a minimum of six feet high topped with barbed wire. Around the outer boundary of the plant property will be a three-strand barbed wire fence.

The ash disposal area and the water supply reservoir will be surrounded by cyclone wire fences, a minimum of six feet high topped with barbed wire. Access to these areas will be through locked gates. There will be no public roads to access these areas.

8.3.4. Location of Facility Buildings, Transmission Lines and other Structures

There will be a number of major buildings erected as part of the project. These buildings are listed below

- Boiler Building
- Turbine Building
- Baghouse Buildings
- Coal Crushing Building
- Limestone Crushing Building
- Administration Building
- Warehouse Building
- Maintenance Shop Building
- Security Building
- Coal Truck Dump Hoppers
- Limestone Truck Dump Hoppers
- Water Treatment Building

Each of these buildings is located on the site assessment map.

8.3.5. Location of and use of access ways, internal roads and railroads

There will be a number of roads within the plant. These roads will provide access for the fuel deliveries, limestone deliveries and general plant access. The roads are indicated on the detailed plant drawing.

There will be no rail access to the plant site.

8.3.6. Existing and Proposed Utilities to Service the Facility

Electric distribution lines and a gas collection system presently exist on the plant site. These existing utilities will be relocated as part of the project construction.

Proposed utilities to support the project include electric switchyard and transmission lines, high pressure gas line and water supply system. These utilities are discussed in more detail in other sections of this document.

8.3.7. Compliance with Applicable Setback Requirements

Under the new portion of KRS 278, Section 3, the setback requirements are as follows;

(2) "… the exhaust stack of the proposed facility is at least one thousand (1000) feet from the property boundary of any adjoining property owner and two thousand (2000) feet from any residential neighborhood, school, hospital or nursing home facility."

(5) "If the merchant electric generating station is proposed to be located on a site of a former coal processing plant in the Commonwealth where the electric generating facility will utilize on-site waste coal as a fuel source, then the one thousand (1000) foot property boundary requirement of subsection (2) of this section shall not be applicable."

The plant location is within 600 feet of the purchased property boundary and over 1000 feet from the leased property boundary. There are no residential neighborhoods, schools, hospitals or nursing facilities within 2000 feet of this location. The nearest neighbor is approximately 13,000 feet from the power plant site.

The power plant is located completely within the unincorporated area of Knott County. A portions of the water storage reservoir will be located in Perry county. There is no applicable Planning and Zoning Commission with jurisdiction over these locations.

8. 4. 0 Scenic Compatibility of Power Plant

Introduction

Pursuant to KRS 278, determination of scenic compatibility of a new power plant is to be assessed prior to the construction of any new power plant. The presumption of the assessment is to determine any negative visual impact to adjacent environments being used by inhabitants or visitors of those adjacent areas. The primary focus of this portion of the site assessment will be to ascertain visual qualities of the existing environment/land uses and any negative impacts created by the power plant construction

While the statutes do not recommend a specific methodology, the basis of this assessment will incorporate practical and pragmatic applications of visual analysis' to the extent of determining visual impacts To this end, this assessment will determine if the power plant;

- Can be seen from critical locations or views
- Has any negative impact to the existing viewshed

This determination will be made through a series of viewshed profiling assessments from areas having the most potential for negative visual impacts of the proposed power plant. A study of area land uses has been made to determine potential negative views to the power plant. For the basis of this assessment, the scenic viewshed analysis will be developed visual units that have been selected as being typical for the area Persons visiting the area, via transportation routes, inhabitants of the area and sensitive environments of the area have been selected as visual units to be assessed for negative impacts of the power plant.

Project Description

The proposed power plant has been sited in a relatively benign area due to its size and scale. This deliberate siting works well for the contextural setting of the power plant The plant will occupy approximately 195 acres of ground and will be located for ease of access and site specific uses for auxiliary needs of the operation of the power plant In profile the power plant will occupy an area that is approximately 450 feet in length. The tallest portion of the power plant is the stack that will be approximately 450 feet in height The main portion of the plant, the generating area will be just over 200 feet in height. In addition to the power plant, a refuse ash disposal area will be created over the life of the plant on an adjacent area of the site. The proposed refuse area will be contoured to the land and will reach a proposed elevation of approximately 1700 msl. The refuse area will be reclaimed with natural ground cover, in context with the adjacent mined areas

The power plant will be located on a relatively high area, known as Potato Knob, at an approximate elevation of 1400 msl. Through the development of the plant site,

approximately 25 to 30 feet of the plateau will be removed The highest elevation of the plant, the stack will be at an elevation of approximately 1850 This will be the critical benchmark elevation for the visual/scenic assessment

The power plant and its auxiliary operations are being developed on a reclaimed strip mine site and is surrounded by an active mining operation and reclaimed mine areas The active mine operations create extensive disturbance in a visual context to the surrounding landscape with the spoil piles and excavated areas Previous sections of this site assessment further describe the specific nature of the facility and the surrounding environments

Scenic Assessment

The scenic assessment will be developed utilizing impact models for adjacent land uses that potentially could be impacted the greatest For the purpose of this assessment it will be assumed that the power plant will not have any negative impact to the immediately adjacent mining land use In relative terms, the mining operation can be considered as a landscape disruption in itself and potentially is far less visually acceptable than the proposed power plant

Having assessed the area, there are three land use areas (visual units) that will potentially be negatively impacted by the visibility of the power plant,

- Route 80 to the south of the power plant and a primary east west transportation corridor of the region Route 80 is selected as a modeling unit because travelers using route 80 may be impacted by any negative visibility of the power plant Route 80 is just over 4 miles in a straight visual line of site to the power plant Two points on Route 80 will be assessed for visual impact

- Robinson Forest Wildlife Management Area to the north of the proposed power plant and is a natural forest area utilized by the University of Kentucky for the study of forestry and wildlife resources Critical areas of activity that are used for study, demonstration and recreational uses within Robinson Forest will be assessed along a visual line of site that ranges from approximately 2 5 miles to just under 4 miles Three points within Robinson Forest will be assessed for visual impact

- Residential community along Buck Fork Branch approximately three miles to the southwest of the power plant site Compatibility issues of a power plant and residential land uses led to the selection of this area as a visual unit to be assessed One line of site assessment will be made to this area

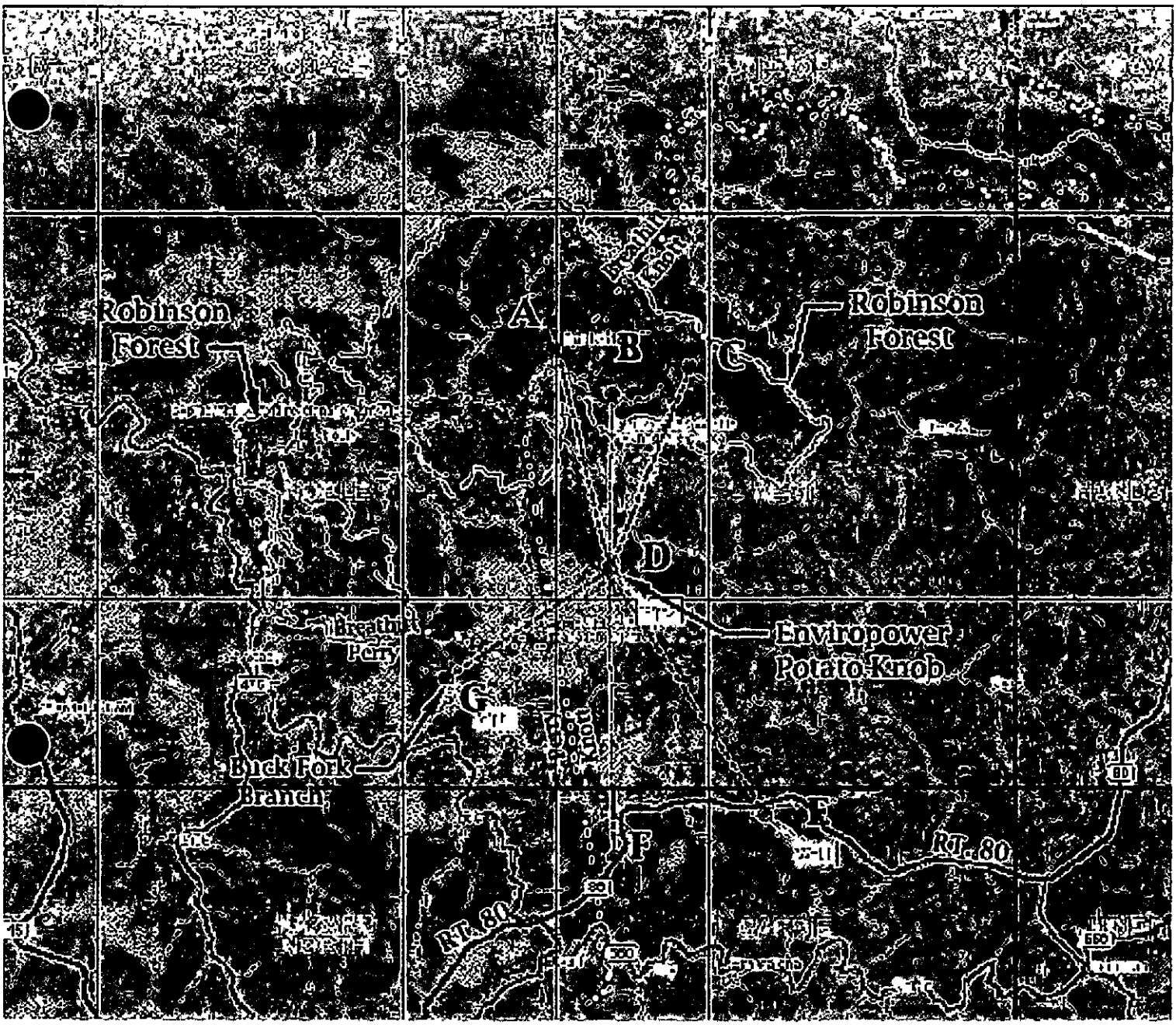
These three land use areas surround the power plant and represent a full radial viewshed from the proposed power plant As a conservative approach to this assessment, it is assumed there are no environmental obstructions between the referenced visual units and

the proposed power plant other than topographic and elevational changes Thus the assessment will rely solely on a topographic model for determining negative impact A topographic obstruction to a line of sight between the visual unit and the proposed power plant will negate visibility, thus eliminating a negative impact For the purpose of this assessment, the highest elevation of the proposed power plant has been used for the line of sight profile

A straight line "profile" will be simulated between the power plant and the critical land use/visual unit This profile will reflect the visual obstructions in the form of topographic land features A line of sight profile has been projected on each topographic profile that will reflect obstructions to the line of sight

Exhibit 'A' illustrates the regional Land Use/Viewshed Environment context of the power plant to the selected visual units assessed for scenic incompatibility The radial assessment extends approximately four miles from the proposed power plant site These selected visual units are well representative of areas that could be visually impacted from a scenic context by the power plant

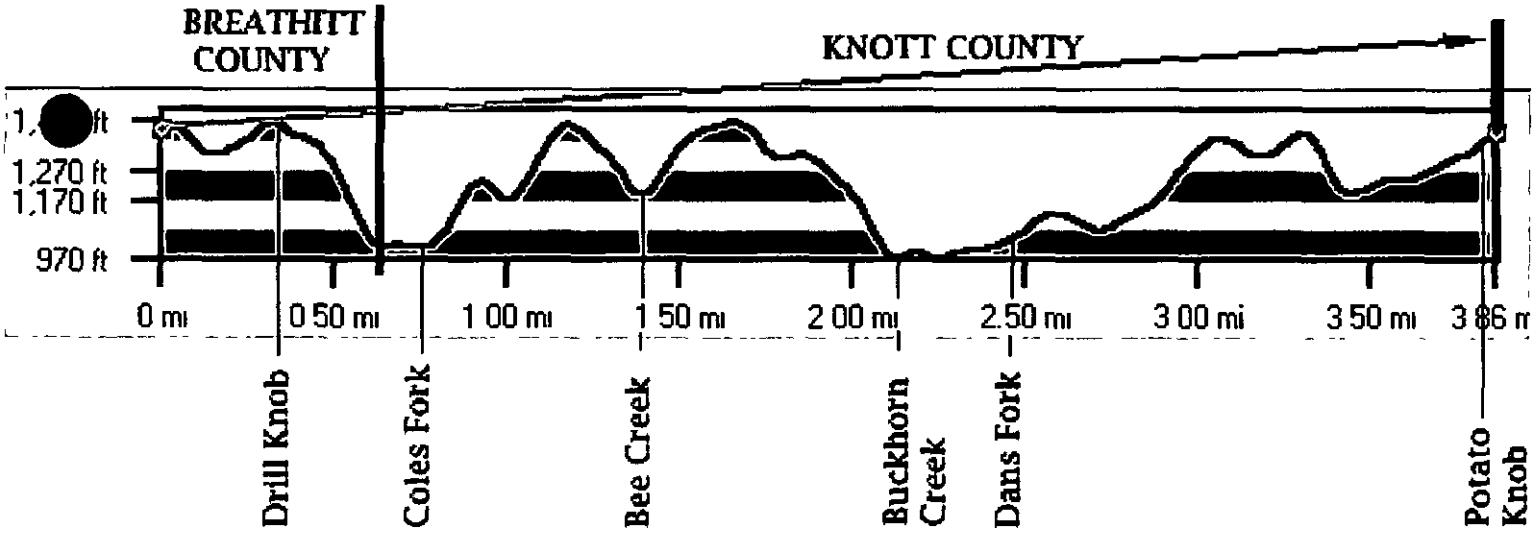
Exhibit 'B' illustrates the line of sight/topographic profiles between each selected visual unit and the proposed power plant An intersection of the line of sight profile and a topographic profile line represent a visual obstruction between the power plant and the visual unit



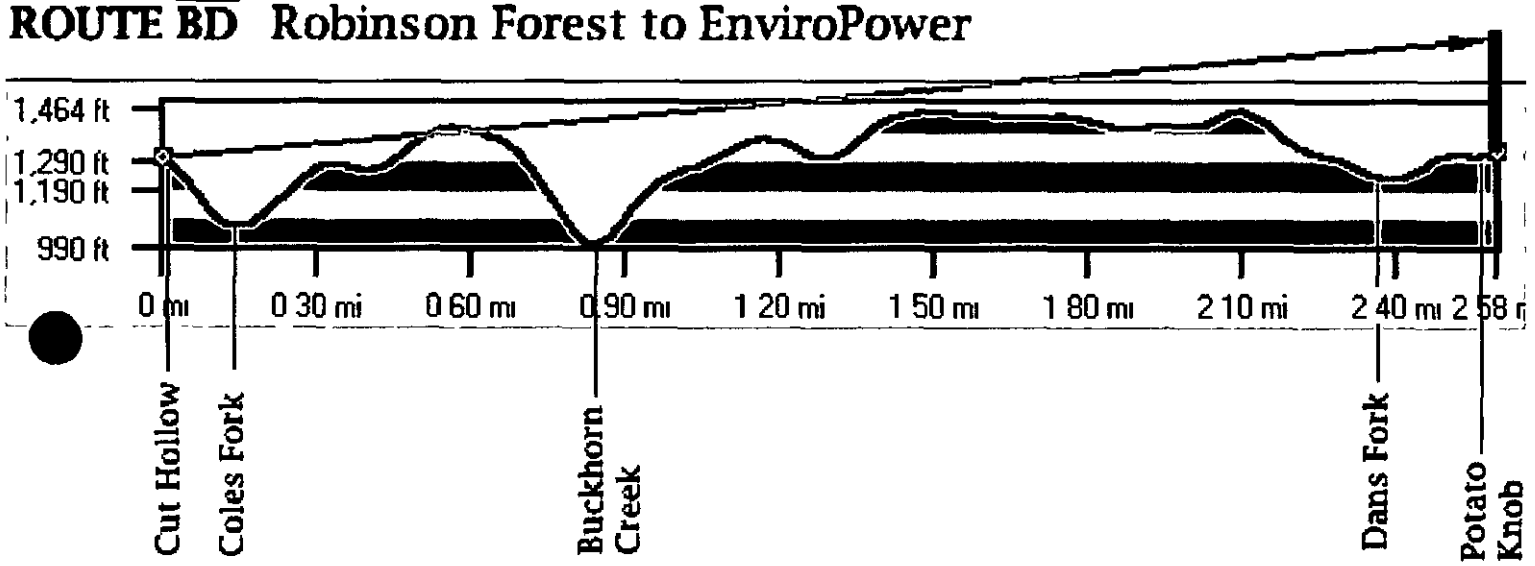
Viewshed Profile Line

EXHIBIT 'A'
Viewshed Environment

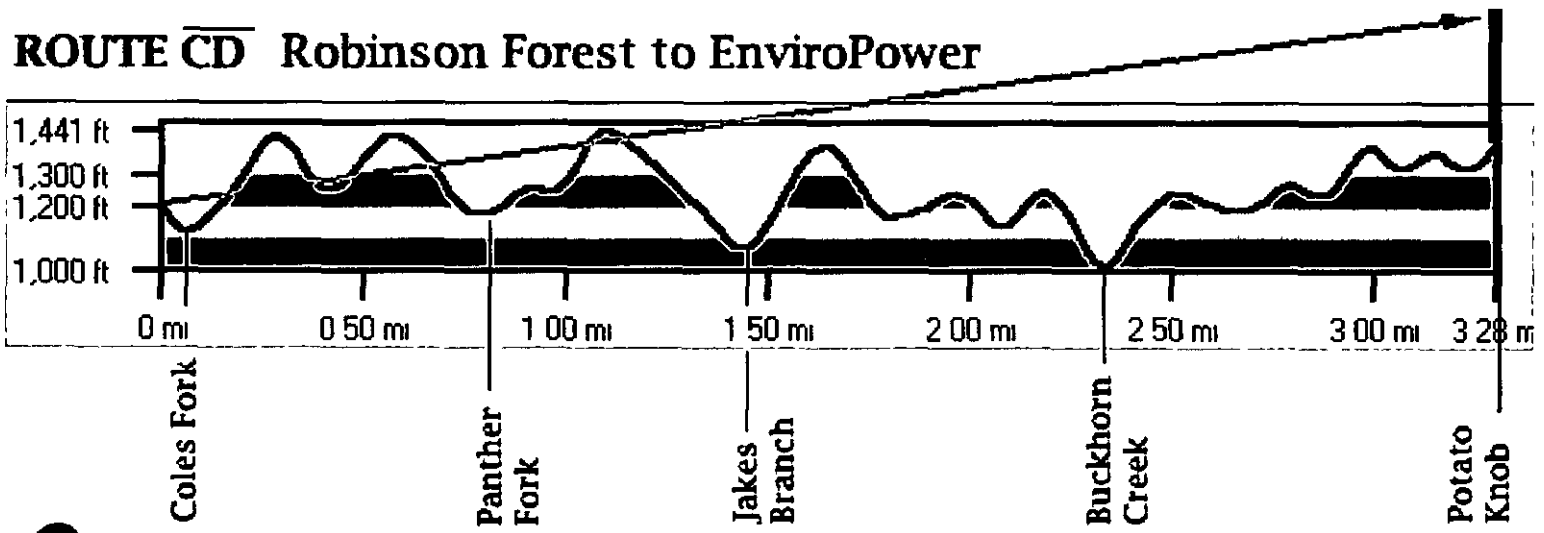
Route $\overline{AD}$ Robinson Forest to EnviroPower



ROUTE $\overline{BD}$ Robinson Forest to EnviroPower



ROUTE $\overline{CD}$ Robinson Forest to EnviroPower

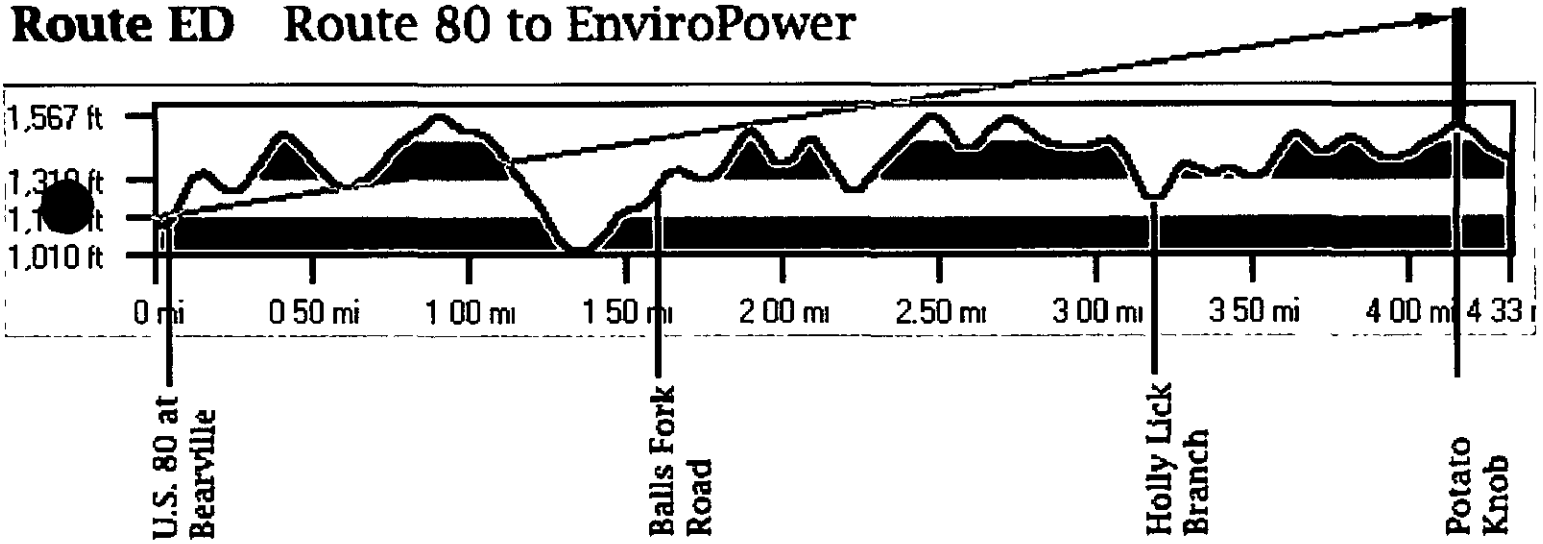


Sight Line

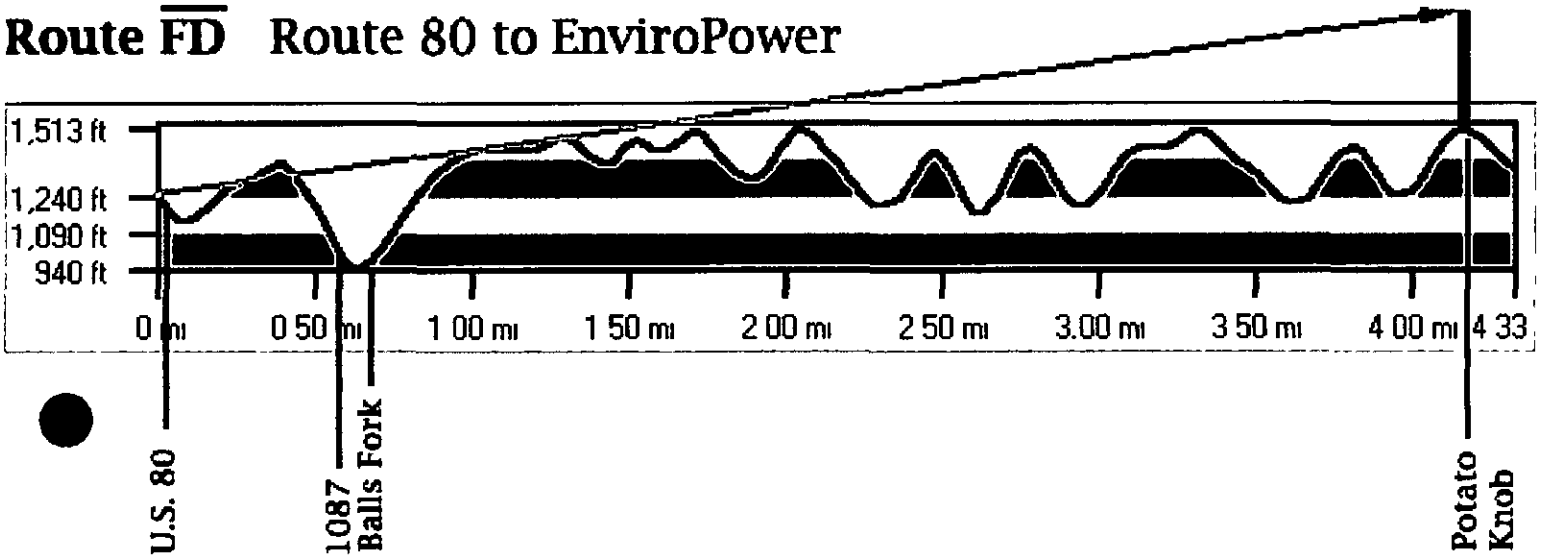
EnviroPower

EXHIBIT 'B'
Sight Line Profiles

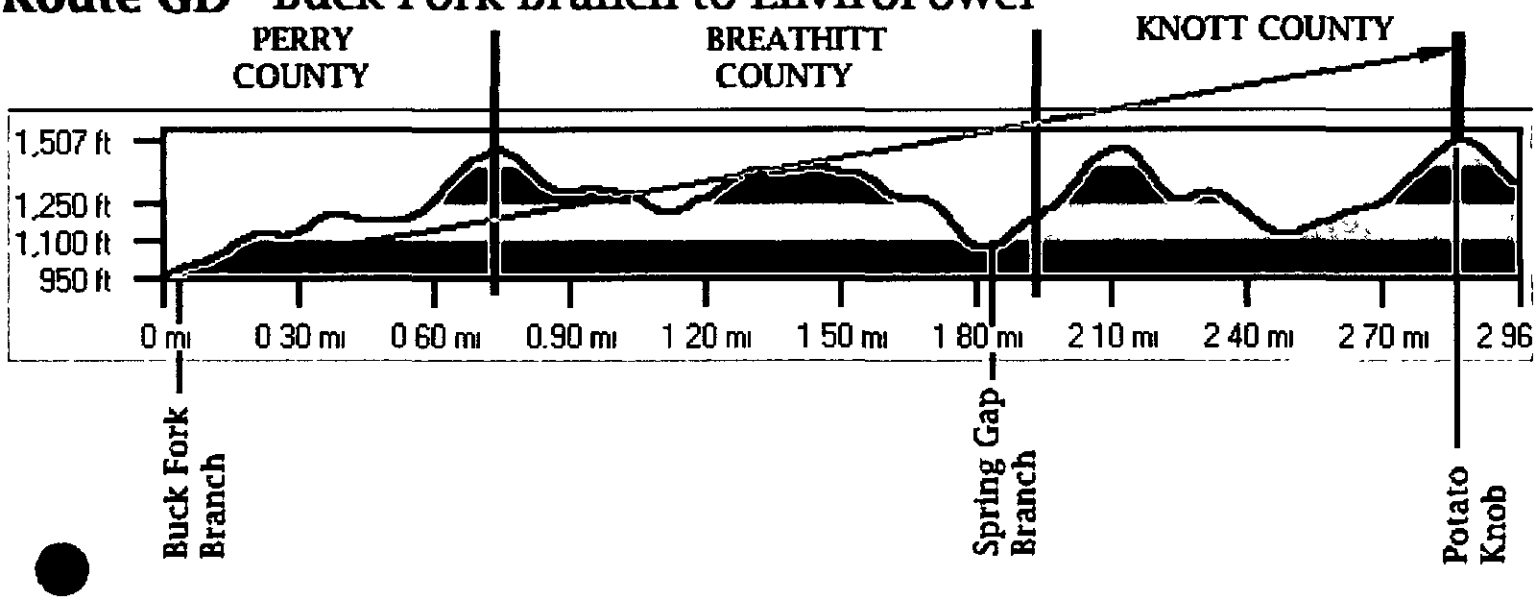
Route ED Route 80 to EnviroPower



Route FD Route 80 to EnviroPower



Route GD Buck Fork Branch to EnviroPower



Sight Line | EnviroPower

Sight Line Profiles

Conclusions

This assessment will conclude negative scenic impact if the power plant becomes a dominate visual part of the landscape within the surrounding area of the power plant Should visual obstructions occur between selected and representative land uses of the area, is will be concluded that no negative scenic or visual impact occurs

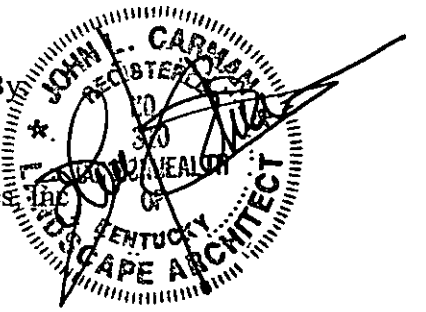
The line of sight/topographic profiles between Route 80 and Buck Fork Branch illustrate significant topographic obstructions It is concluded that the power plant cannot be seen between these selected model points and thus there will be no negative scenic impact to the south and west of the power plant

The line of sight profiles between the selected model points within Robinson Forest illustrate marginal obstruction between the power plant In these profiles, because of no conclusive evidence from the profiling, other environmental factors should be considered Other environmental factors would include density of land cover such as significant tree growth, atmospheric conditions that would impact range of visibility and the scale of the power plant in the context of the entire environment Considering that Robinson Forest has a very dense tree and vegetation cover, there are over 150 days of precipitation in the area creating atmospheric obstructions and the single vertical inclusion of the power plant stack approximately four miles from the critical activity areas in Robinson Forest, the potential for other environmental obstructions and minimization of visual impacts is high It is the conclusion of this assessment that there will be no negative scenic impact of the power plant to Robinson Forest

Having assessed a representative sampling of visual units within the area of the power plant and determining no negative visual impacts, it is the conclusion of this portion of the Site Assessment the Scenic Qualities of the area will not be compromised because of the development of the proposed power plant

Scenic Assessment Prepared By

John L Carman, RLA
John L Carman and Associates, Inc
310 Old East Vine Street
Lexington, Kentucky



APPRAISAL

RESTRICTED REPORT/SUMMARY REPORT
Of
APPALACHIAN REALTY COMPANY
(SPRUCE PINE TRACT)
HIGHWAY 80, KNOTT, PERRY & BREATHITT COUNTY

PREPARED FOR

ENVIRO POWER
2810 LEXINGTON FINANCIAL CENTER
LEXINGTON, KENTUCKY 40507

DATE OF VALUATION: 05/24/02

DATE OF INSPECTION: 05/24/02

DATE OF REPORT: 05/24/02

PREPARED BY

MARTHA GREER
General Appraiser #001595
233 EAST MAIN STREET
HAZARD, KY 41701

Table of Contents

MARTHA GREER REALTY
233 EAST MAIN STREET
HAZARD, KY 41701

May 24, 2002

Enviro Power
2810 Lexington Financial Center
Lexington, Kentucky 4050

Mr. John Tate

As requested, I have made a site visit and appraised a portion of the property known as the Spruce Mine Tract belonging to Appalachian Realty, Company. Being located in Knott, Perry and Breathitt Counties. Access is from New Highway 80, a four lane roadway servicing Knott and Perry Counties and connecting with Interstate 75 and Highway 15.

The purpose of this appraisal is to provide an opinion of market value. Market Value is defined as the most probable price the property might be expected to bring on an open market with a willing buyer and a willing seller, neither being under any duress to buy or sell, each having full knowledge of the property's highest and best use. *Two different Market Values will be estimated in this report* and shall be defined ***"As Is"*** and ***"Subject To, Site Improved"***.

The "As Is Value" is stated with all current conditions of the acreage being *as the property is found at this time*. No improvements of water nor a new roadway into the property has been considered. The "Subject To, Site Improved Value" is a speculative value based on the assumption that a new bridge, a limited access three lane road and a water system capable of handling water to all aspects of the industrial park, golf course and the proposed power plant site.

The function of this appraisal is to assist in the internal decision process of Enviro Power.

This is a Restricted Appraisal written in a Summary Report format, developed for Enviro Power, known as the client and as the intended user of the report. The USPAP Departure Rule has not been invoked.

The portion of property appraised consist of 4 tracts of land, each labeled and defined by acreage amount. The tracts have been combined and a total dollar amount has been assigned for the entire acreage. The land has been valued as if offered in the open market for a reasonable period of time in which to find a buyer. I have assumed the property to be available free and clear of all liens and encumbrances.

The property rights appraised are considered fee simple excluding minerals and timber. Fee simple interest is defined as an absolute fee, free of limitations to any particular class of heirs or restrictions, but subject to the limitations of eminent domain, escheat, police power and taxation.

It is my opinion and conclusion that the market value of the fee simple estate of the property "As Is" as of May 24, 2002 is;

FIVE HUNDRED SEVENTY-FIVE THOUSAND DOLLARS
($575,000)

It is my opinion and conclusion that the market value of the fee simple estate of the property "Subject To, Site Improved" as of May 24, 2002 is;

SEVEN MILLION THREE HUNDRED THOUSAND DOLLARS
($7,300,000.00)

If you have any questions concerning this report please call me at my office.

Respectfully Submitted,
Martha Greer

Martha T. Greer

John Stacy

John W Stacy

Randal Brashear

Randall Brashear

I certify that, to the best of our knowledge and belief:

1) The statements of fact contained in this report are true and correct.

2) The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are our personal, unbiased professional analyses, opinions, and conclusions.

3) I have no present or prospective interest in the property that is subject of this report, and we have no personal interest or bias with respect to the parties involved.

4) My analyses, opinions and conclusions were developed and this report has been prepared, in accordance with the final rule by Office of the comptroller of the Currency (12 CFR 34) dated August 24, 1990, as amended, the Uniform Standards of Professional Appraisal Practice and in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute and American Bank.

5) I have made a personal site visit of the property that is the subject of this report.

6) No one provided significant professional assistance to the persons signing this report.

7) The value estimates in this report were not based on a requested minimum valuation, a specific valuation, or for the approval of any loan.

8) The Americans with Disabilities Act ("ADA") became effective January 26, 1992. The appraisers have not made a specific compliance survey and analysis of this property to determine whether or not it is in conformity with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect upon the value of the property. Since the appraisers have no direct evidence relating to this issue, possible noncompliance with the requirements of ADA in estimating the value of the property has not been considered.

It is my opinion and conclusion that the market value of the fee simple estate of the property "as is" as of May 24, 2002 is; **$575,000.00** and "subject to, site improved" is **$7,300,000.00**

Martha Greer Martha J. Greer

John Stacy John W Stacy

Randall Brashear Randall Brashear

General Underlying Assumptions

Legal Matters:
The legal description used in this report is assumed to be correct, but it may not necessarily have been confirmed by survey. No responsibility is assumed in connection with a survey or for encroachments or overlapping or other discrepancies that might be revealed thereby. Any sketches included in the report are only for the purpose of aiding the reader in visualizing the property and are not necessarily a result of a survey.

No responsibility is assumed for an opinion of legal nature, such as to ownership of the property or condition of title.

The appraisers assume the title to the property to be marketable; that, unless stated to the contrary, the property is appraised as an unencumbered fee which is not used in violation of acceptable ordinances, statues or other government regulations.

Unapparent Conditions:
The appraisers assume that there are no hidden or unapparent conditions of the property, subsoil or structures which would render it more or less valuable than otherwise comparable property. The appraisers are not experts in determining the presence or absence of hazardous substance, defined as all hazardous or toxic materials, waste, pollutants or contaminants (including, but not limited to, asbestos, PCB, UFFI, or other raw materials or chemicals) used in construction or otherwise present on the property. Due to the age of the buildings it is assumed by this appraiser that some of the materials could exist which is typical of older buildings.

The appraisers assume no responsibility for the studies or analysis which would be required to conclude the presence or absence of such substances or for loss as a result of the presence of such substances. The client is urged to retain an expert in this field, if desired. The value estimate is based on the assumption that the subject property is not adversely affected.

Information and data:
Information, estimates, and opinions furnished to the appraisers and contained in the report, were obtained from source considered reliable and believed to be true and correct. However no responsibility for accuracy of such items furnished the appraisers can be assumed by the appraisers.

All mortgages, liens, encumbrances, and servitudes have been disregarded unless so specified within the appraisal report. The subject property is appraised as though under responsible ownership and competent management.

Zoning and Licenses:
It is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless a nonconforming use has been stated, defined and considered in the valuation.

It is assumed that the subject property complies with all applicable federal, state, and local environmental regulations and laws unless noncompliance is stated, defined and considered in the valuation.

General Limiting Conditions

It is assumed that the information relating to the location of or existence of public utilities that has been obtained through a verbal inquiry from the appropriate utility authority, or has been ascertained from visual evidence is correct. No warranty has been made regarding the exact location or capacities of public utility systems.

It is assumed that all licenses, consents or other legislative or administrative authority from local, state, or national governmental or private entity or organization have been , or can be, obtained or renewed for any use on which the value estimate contained in the valuation report is based.

The appraisers will not be required to give testimony or appear in court due to preparing the appraisal with reference to the subject property in question, unless prior arrangements have been made.

Possession of the report does not carry with it the right of publication. Out-of-context quoting from or partial reprinting of this appraisal report is not authorized. Further, neither all nor any part of this appraisal report shall be disseminated to the general public by the use of media for public communication without the prior written consent of the appraisers signing this appraisal report.

Disclosure of the contents of this report is governed by the By-Laws and Regulations of the Appraisal Institute. Neither all n or any part of the contents of this report (especially any conclusions as to value, the identity of the appraisers or the firm with which they are connected, or any reference to the Appraisal Institute or to the appraisal designations) shall be disseminated to the public through advertising media, public relations media, news media, sales media or any other public means of communication without the prior written consent and approval of the author.

General Limiting Conditions (Continued)

The distribution of the total valuation in this report, between land and improvements, is applicable only as a part of the whole property. The land value, or the separate value of the improvements, must not be used in conjunction with any other appraisal or estimate and is invalid if so used.

No environmental or concurrence impact studies were either requested or made in conjunction with the appraisal report. The appraisers, thereby, reserve the right to alter, amend, revise, or rescind any of the value opinions based upon any subsequent environmental or concurrence impact studies, research or investigation.

An appraisal related to an estate in land that is less than the whole fee simple estate applies only to the fractional interest involved. The value of this fractional interest plus the value of all other fractional interests may or may not equal the value of the entire fee simple estate considered as a whole.

The appraisal report related to a geographical portion of a larger parcel is applied only to such geographical portion and should not be considered as applying with equal validity to other portions of the large parcel or tract. The value for such geographical portions plus the value of all other geographical portions may or may not equal the value of the entire parcel or tract considered as an entity.

The appraisal is subject to any proposed improvements or additions being completed as set forth in the plans, specifications, and representations referred to in the report, and all work being performed in a good and workmanlike manner. The appraisal is further subject to the proposed improvements or additions being constructed in accordance with the regulations of the local, county, and state authorities. The plans, specifications, and representations referred to are an integral part of the appraisal report when new construction or new additions, renovations, refurbishing, or remodeling applies.

If the appraisal is used for mortgage loan purposes, the appraisers invite attention to the fact that (1) the equity cash requirements of the sponsor have not been analyzed, (2) the loan ratio has not been suggested, and (3) the amortization method and term have not been suggested.

The function of this report is <u>not</u> for use in conjunction with a syndication of real property. This report cannot be used for said purposes and, therefore, any use of this report relating to syndication activities is

General Limiting Conditions (Continued)

strictly prohibited and unauthorized. If such an unauthorized use of this report takes place, it is understood and agreed that Martha Greer Appraisals has no liability to the client and/or third parties.

Acceptance of and/or use of this appraisal report constitutes acceptance of the foregoing General Underlying Assumptions and General Limiting Conditions. The appraisers' duties, pursuant to the employment to make the appraisal, are complete upon delivery and acceptance of the appraisal report. However, any corrections or errors should be called to the attention of the appraisers within 60 days of the delivery of the report.

ENVIRONMENTAL DISCLAIMER:
The value estimated in this report is based on the assumption that the property is not negatively affected by the existence of hazardous substances or detrimental environmental conditions. The appraiser is not an expert in the identification of hazardous substances or detrimental environmental conditions. The appraiser's routine inspection of and inquires about the subject property did not develop any information that indicated any apparent significant hazardous substances or detrimental environmental conditions which would affect the property negatively.

Limited Certification

The Appraiser certifies and agrees that:

1.) The Appraiser has no present or contemplated future interest in the property appraised; and neither the employment to make the appraisal, nor the compensation for it, is contingent upon the appraised value of the property.

2.) The Appraiser has no personal interest in or bias with respect to the subject matter of the appraisal report or the participants to the sale. The "Estimate of Market Value" in the appraisal report is not based in Whole or in part upon the race, color or national origin of the prospective owners or occupants of the property appraised, or upon the race, color or national origin of the present owners or occupants of the properties in the vicinity of the property appraised.

3.) The appraiser has made a site visit to the property, both inside and out, and has made an exterior site visit of all comparable sales listed in the report. To the best of the Appraiser's knowledge and belief all of the statements and information in this report are true and correct and the Appraiser has not knowingly withheld any significant information.

4.) All contingent and limiting conditions are contained herein (imposed by the terms of the assignment or by the undersigned affecting the analyses, opinions, and conclusions contained in the report).

5.) This appraisal report has been made in conformity with and is subject to the requirements of the Code of Professional Ethics and Standards of Professional Conduct of the Uniform Standards of Professional Appraisal Practice which is monitored by the Kentucky Appraisers Board.

6.) All conclusions and opinions concerning the real estate that are set forth in the appraisal report were prepared by the Appraiser whose signature appears on the appraisal report, unless indicated as "Review Appraiser." No change of any item in the appraisal report shall be made by anyone other than the Appraiser, and the Appraiser shall have no responsibility for any such unauthorized change.

CONTINGENT AND LIMITING CONDITIONS:

The certification of the Appraiser appearing in the appraisal report is subject to the following conditions and to such other specific and limiting conditions as are set forth by the Appraiser in the report.

1. The Appraiser assumes no responsibility for matters of a legal nature affecting the property appraised or the title thereto nor does the Appraiser render any opinion as to the title, which is assumed to be good and marketable. The property is appraised as though under responsible ownership.

2. Any sketch in the report may show approximate dimensions and included to assist the reader in visualizing the property. The Appraiser has made no survey of the property.

3. The Appraiser is not required to give testimony or appear in court because of having made the appraisal with reference to the property in question, unless arrangements have been previously made therefor.

4. Any distribution of the valuation in the report between land and improvements applies only under the existing program of utilization. The separate valuations for land and building must not be used in conjunction with any other appraisal and are invalid if so used.

5. The Appraiser assumes that there are no hidden or unapparent conditions of the property, subsoil, or structures, which would render it more or less valuable. The Appraiser assumes no responsibility for such conditions, or for engineering which might be required to discover such factors.

6. Information, estimates, and opinions furnished to the Appraiser, and contained in the report, were obtained from sources considered reliable and believed to be true and correct. However, no responsibility for accuracy of such items furnished the Appraiser can be assumed by the Appraiser.

7. Disclosure of the contents of the appraisal report is governed by the Bylaws and Regulations of the professional appraisal organizations with which the Appraiser is affiliated.

8. Neither all, nor any part of the content of the report, or copy thereof (including conclusions as to the property value, the identity of the Appraiser, professional designations, reference to any professional appraisal organizations, or the firm with which the Appraiser is connected), shall be used for any purposes by anyone but the client specified in the report, the borrower if appraisal fee paid by same, the mortgagee or its successors and assigns, mortgage insurers, consultants, professional appraisal organizations, any state or federally approved financial institution, any department, agency, or instrumentality of the United States or any state or the District of Columbia, without the previous written consent of

the Appraiser; nor shall it be conveyed by anyone to the public through advertising, public relations, news, sales, or other media, without the written consent and approval of the Appraiser.

Executive Summary

Property Type:	Vacant Land
Property Location:	Spruce Pine Tract Knott, Perry & Breathitt Co. Access - New Hwy 80
Owner:	Appalachian Reality Co.
Date of Valuation:	May 24, 2002
Property Rights Appraised:	Fee Simple Estate Excluding Minerals & Timber
Site Data:	The site has four tracts totaling 1,147 acres.
Current Improvement:	The subject is improved with a limited access road off of New Highway 80.
Proposed Improvements:	The site has proposed improvements of new multi million dollar water system, a new limited access three lane road and a new bridge into the property.
Highest and Best Use:	As vacant/With Subject Improvements Industrial Development
Value indications:	Sales Comparison Approach:
"As Is Value"	***$ 575,000.00***
"Subject To"	***$7,300,000.00***

Ownership History
The subject property is a combination of several tracts of land explained by several deeds. Ownership of the defined tract is held by Appalachian Reality Company.

Function of Appraisal
The function of the appraisal is to assist in the internal decision making process of Enviro Power.

Purpose and Date of Valuation
The purpose of this appraisal is to estimate the market value of the subject land as of May 24, 2002.

Scope of Appraisal
The scope of the appraisal requires compliance with the Uniform Standards of Professional Appraisal Practice promulgated by the Appraisal Standards Board of the Appraisal Foundation and the Guide Notes to the Standards of Professional Appraisal Practice adopted by the Appraisal Institute. The standards contain binding requirements and specific guidelines that deal with the procedures to be followed in developing an appraisal, analysis, or opinion. These uniform standards set the requirements to communicate the appraisers' analyses, opinions, and conclusions in a manner that will be meaningful and not misleading in the marketplace.

The appraisal is based on the information gathered by the appraiser from public records, other identified sources, site visit to the subject property, selection of comparable sales, listings and/or rentals within the subject market area. The original source of comparables is shown in the data source section of the Market grid along with the sources of confirmation.

A narrative appraisal report on the subject property has been prepared. The subject property data such as size, location, quality, and zoning are considered and presented in this report. Market data, including land sales and supply and demand are among the items researched, analyzed, and presented. The data is used to consider the highest and best use of the subject property and to estimate the market value.

The appraisers lack the knowledge and experience with respect to the detection and measurement of hazardous substances. Therefore, this assignment does not cover the presence or absence of such substances as discussed in the General Underlying Assumptions section. However, any visual or obviously known hazardous substances affecting the property will be reported and an indication of its impact on value will be discussed.

The documentation necessary to arrive at the value is considered in this appraisal report. The market data has been collected, confirmed, and analyzed. Comparable sales were chosen for their similar highest and best uses as outlined within the report. All sales were analyzed and compared to the subject property base on their similarities and dissimilarities.

Important Definitions

Definition of Market Value:

The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sales as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated;

2. both parties are well-informed or well-advised, and acting in what they consider their own best interests:

3. a responsible time is allowed for exposure in the open market;

4. payments is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and

5. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

The Definition of market value was taken from the Department of the Treasury, Office of the Comptroller of the Currency, 12CFR Part 34, dated August 24, 1990 (Section 34.42 Definitions).

NOTE: The above definition is the same for six of the federal banking agencies (Federal Reserve System, Office of the Comptroller of the Currency, Federal Deposit Insurance Corporation, Resolution Trust Corporation, Office of Thrift Supervision, and National Credit Union Administration).

Market Value Comments: The factors of utility, scarcity, desire and effective purchasing power are apparent in the definition. The implication that buyer and seller are working under equal pressure is seldom completely true, although typical motivation for each does imply a reasonable balance for a market value transaction.

Market prices do not necessarily follow all of those concepts and are often affected by salesmanship and the urgency and need of the buyer and/or seller. The central difference between market price and market value lies in the premise of knowledge and willingness both of which are contemplated in market value, but not in the market price. Stated differently, at any given moment of time, market value denotes what a property is actually worth under certain specified conditions, while market price denotes the actual sale price.

Probability of Value Change: The market value of the property appraised in the report is estimated as of the aforementioned date.

Constantly changing economic, social, political and physical conditions have varying effects upon real property values. Even after the passage of a

Important Definitions (Continued)

relatively short period of time, property values may change substantially and require a review of the appraisal and recertification.

Definition of Fee Simple Estate or Interest:

Fee simple estate is the absolute ownership unencumbered by any other interest or estate subject only to the four powers of government. (The Dictionary of Real Estate Appraisal, 2nd Edition by American Institute of Real Estate Appraisers, 1989). The four governmental powers include eminent domain, escheat, police power, and taxation.

Definition of Highest and Best Use:

Highest and best use may be defined as: The reasonably probable and legal use of vacant land or an improved property, which is physically possible, appropriately supported, financially feasible, and that results in the highest value. The four criteria the highest and best use must meet are legal permissibility, physical possibility, financial feasibility, and maximum profitability. (The Dictionary of Real Estate Appraisal, 2nd Edition, by American Institute of Real Estate Appraisers, 1989.)

The definition immediately preceding applies specifically to the highest and best use of land and/or property. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be concluded to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use.

Also implied, is that the estimation of highest and best use results from judgment and analytical skill, i.e., that the use concluded from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value), another appropriate term to reflect highest and best use would be most probable use. In the context of investment value, an alternative term would be most profitable use.

The highest and best use of both land as though vacant and property as improved must meet four criteria. The highest and best use must be 1) physically possible, 2) legally permissible, 3) financially feasible, and 4) maximally productive. These criteria are usually considered sequentially; a use may be physically possible, but this is irrelevant if it is feasibly impossible or legally prohibited. Only when there is a reasonable possibility that one of the prior, unacceptable conditions can be changed is it appropriate to proceed with the analysis. If, for example, current zoning does not permit a potential highest and best

Important Definitions (Continued)

use, but there is a reasonable possibility that the zoning can be changed, the proposed use can be considered on that basis. (The Appraisal of Real Estate, 9th Ed. by American Institute of Real Estate Appraisers, 1987)

Location

The subject property is located in Knott, Perry & Breathitt Counties. The property is known as the Spruce Pine Tract and is accessed from New Highway 80 via a Knott County entrance.

Although this property is located in three counties, location has been considered central to Hazard/Perry County. This is due to Hazard/Perry County being the economic hub for the local fifty mile radius.

Legal Description

The subject acreage is held on several deeds transferred over the past years. For the purpose of this report the exhibit Maps Label as Kentucky Mountain Power, LLC Properties At Star Fire Mine (Appalachian Reality Co. - Spruce Pine Tract) is considered the Source and explanation of the property being appraised in this report. If at any time a clarified title or more accurate depiction of the subject or acreage amount is furnished to this appraiser, I reserve the right to adjust the value established in this report accordingly.

There are no revealed or known adverse easements or encroachments involved that have a negative affect on the marketability of the subject although easements do exist and minerals and timber has been excluded.

Area Data and Regional Information

Location and Population

The Perry/Knott/Breathitt project area is located at the crossroads of southeastern Kentucky in the center of the mountainous eastern Kentucky coal fields where the east, west, north and south meet. Hazard is 118 miles southeast of Lexington, Ky., 168 of Louisville. The city of Hazard has a population of 5,730 and a total population for Perry County of 31,193 according to a 2000 estimate.

Highway Facilities

The Daniel Boone Parkway (also known as New Highway 80), Kentucky Route 15 and 80 serve Hazard. Access to the east west Daniel Boone Parkway, a two lane limited access toll road with passing lanes, is 9 miles north of the property access via Kentucky Route 15, a "AAA" rated trucking highway with passing lanes. The Daniel Boone Parkway interconnects with Interstate 75 approximately 65 miles west at London, Kentucky. Access to the east-west Mountain Parkway, a limited access four-lane highway, is 55 miles northeast of Hazard at Campton via Kentucky Route 15. The Mountain Parkway interconnects with Interstate 64

approximately 43 miles beyond Campton near Winchester, Kentucky. Kentucky Rt. 80 has been widened to four lanes between Hazard and Prestonburg and interconnects with a four lane section of U.S. 23 service Pikeville.

Airport Facilities

Wendell H. Ford Regional Airport located approximately 9 miles north of Hazard adjacent to Ky. Hwy 15 near the Perry County - Breathitt County line. The facility is also strategically located across Ky 15 from the 500 acre, Coal Fields Industrial Park and the Truss Joist MacMillian Plant. The main runway, 14-32 is 5,000' x 100' with a smaller auxiliary runway, 6-24, 3,420' x 60'. The main runway has MIRL runway lighting and a 4 bar VASI. Runway lighting and beacon are accessible 24 hours per day by keying 122.7 from your aircraft. There is also a VOR/DME (AZQ at 116.1 MHZ) located on the field with a published VOR approach. Weather information is available from a AWOS III by radio on 119.025 MHZ or by calling the station by phone at (606) 435-2452. In the spring of 2000 the new 4,400 square foot terminal building and new 90,000 square foot paved parking apron will be opened.

Electric Service

Kentucky Power Company services the City of Hazard. Transmission voltage is delivered to the area at 138,000 volts. This is reduced to 69,000 volts for distribution to several substations in the vicinity and further reduced to 34.5 kv and 12 kv volts for distribution in the community. There is adequate power available in the Hazard area for practically any industrial requirement.

Water and Sewer Facilities

The site does not have city water installed nor sewer install nor readily available. It is uncertain if the City of Hazard could Handel an expanded development at this location.

The City of Hazard Water Company serves the city, and the source of raw water is the northfork of the Kentucky River. Treatment plant capacity is 4,000,000 gallons per day; average daily consumption is 2,500,000 gallons. The total storage capacity is 10,000,000 gallons. Water Pressure is between 90 to 125 psi. Hazard is served by the City of Hazard Sewer Department. The design capacity of the treatment plant is 3,000,000 gallons per day. Average daily flow is 1,500,000 gallons per day and the treatment is secondary.

Area Civic Advantages

A. Schools
public high school
elementary schools
kindergarten schools
day care centers
Hazard State Vocational School

Hazard/Perry County has one of the most unique, state of the art, educational facilities in the Challenger Learning Center. It give middle school age students the opportunity to ``travel to space" on a simulated space mission. It is part of a national network of 36 Challenger Learning Centers (CLC's) in the United States, Canada, and England.

B. Colleges/Education Centers
Hazard Community College
Alice Lloyd College Knott
Lees Junior College

C. Libraries
Perry County Public Library
Hazard Community College Library

D. Churches
17 Protestant
1 Catholic

E. Hospitals
Hazard Appalachian Regional Hospital has 308 beds with 120 physicians

F. Newspapers
2 weekly

Bank Facilities

Whitaker Bank
Citizens Bank & Trust
Peoples Bank & Trust
First Federal Savings & Loan
Inez Deposit Bank - Loan Production office only

The Small Business Administration (SBA) recently located an office in Hazard to process low documentation loans for the eastern United States. The office will create 19 new jobs when fully operational.

Construction Activity

Since 1980 the Hazard/Perry County along with the Knott County area has enjoyed a major construction boom. Completed projects include:

A. Appalachian Regional Hospital - A new state of the art regional hospital, this facility provides modern surgery and health care facilities for the region's residents. The $50 million facility has beds for 308 patients and medical offices are available in an adjoining building.

B. WYMT TV Station - is a full service television station providing production, transmitting and programming services to residents throughout the Southeast Kentucky region. The station is a CBS affiliate.

C. Wendell Ford Regional Airport - Established in 1983, the East Kentucky Regional Airport features a 5,000 foot runway with a new 4,400 square foot Terminal Building and a new 90,000 square foot paved parking apron. Future improvements will include a 2,000' runway extension making the length 7,000 feet.

D. Hazard Village Shopping Center - A $13 million

development, this project brings together a major department store, food store and a large number of specialty shops.

E. Black Gold Shopping Center - includes the Wal Mart store, J.C. Penny and other shops. This is a $50 million construction project with 226,000 square foot of retail space.

F. Hazard Community College Addition - a 26,000 square foot addition which contains a new library, technical classrooms and office space which doubled the college facility.

G. Hazard Psychiatric Hospital has been completed

In order to understand the options impacting Eastern Kentucky's economy has been driven by the coal industry. The region's population expands during the boom times and decreases when the coal industry is in a depressed state. For most of the last thirty years, diversification has been something frequently talked about. While the goal of economic diversity continues to elude the region the following industries have been completed and is now operating in the area. 1. Truss Joist McMillian 2. Perry Manufacturing 3. D J Plastics 4. Wood Mark Production Facilities.

Only in the last 10 years has it become apparent to just about everyone, including most coal operators, that the coal industry alone cannot provide sufficient employment opportunities for the region's population as it now exists.

The Eastern Kentucky Corporation for jobs has been formed and is committed to diversify and create dramatic new job opportunities to help make the region and its people economically independent. This Corporation is working also on helping to see that a significant percentage of the coal severance taxes are returned to the region from whence they came.

The road systems in this area have been improved dramatically and now provide easy access to interstates which travel throughout the United States, thereby bringing the region within economical reach nearly 2/3rds of the population of the United States.

The Eastern Kentucky Corporation and the Southern Kentucky Economic Development Corporation working together represent the first permanent region-wide organizations in Eastern Kentucky devoted solely to the diversification of the economy.

Neighborhood Description

The subject neighborhood would be considered a rural area. Other than mining operation the area is populated as a rural residential neighborhood. The properties running adjacent to New Highway 80 are emerging as retail/commercial properties with expansion and development growing in this area.

Site Description

The following site description is based on personal site visit to the property and data in public records.

The majority of the subject property has been mined and timber removed. This has created an abundance of flat to rolling land that could be used as developable land for industrial, commercial, resort or residential property.

The subject site is level, rolling and steep mountain land. The acreage is divided into and depicted as nine tracts. These tracts are as follows with listed acreage.

1.) Elk Run Business Park
445.47 Acres

2.) Elk Run Business Park
296.51 Acres

3.) Elk Run Business Park
95.85 Acres

4.) Elk Run Golf Course
309.17 Acres

Totaling to approximately 1,147 acres in the Spruce Pine Tract.

The majority of the land appears to be adequately drained with no known poor soil conditions. The routine site visit of the subject and nearby areas disclosed no unusual adverse conditions affecting the land, but no responsibility is accepted for discovering or evaluating subsoil, hidden or unusual conditions. The General Underlying Assumptions at the beginning of the appraisal cover unapparent conditions of the property. Photographs at the beginning of the appraisal aid in visualizing the subject property.

The appraiser is not an expert in determining the presence or absence, mine residue nor other hazardous substances, defined as all hazardous or toxic materials, waste, pollutants or contaminants, including but not limited to asbestos, PCB, UFFI, or other raw materials or chemicals used in construction or otherwise present on the property. The appraiser assumes no responsibility of studies or analyses which would be required to conclude the presence or absence of such substances or loss as a result of the presence of such substances. The client is urged to retain an expert in this field, if desired. However, the personal surface site inspection by the appraiser did not indicate the presence of hazardous materials or contaminants.

There are no known adverse easements, encroachment, zoning, restrictions nor known disadvantages which would limit

or inhibit the development of the property for a number of uses.

Proposed Site Improvements:

The value in the subject to portion of this report is based on the following assumption:

1.) A new two million dollar bridge being constructed into the property.

2.) A new two to three lane roadway constructed through the property.

3.) A water system capable of supplying and distributing adequate water to the entire Enviro Power Project. This would include the Business Park, Golf Course and Power Plant. This system is estimated to cost approximately forty million dollars.

The information for these improvements was provided by Mr. John Tate of Enviro Power.

Flood Map Information:

The review of the Flood Hazard Map for the Perry/Knott area indicates that the subject is not in a FEMA Flood Hazard area.

Knott County Panel Number
210340 0003 A
November 04, 1977

Perry County Panel Number
215191 0075 B
July 18, 1985

Breathitt County
210023 0150 B
September 27, 1985

(See Map In Addendum)

Zoning

The subject property is not zoned.

There are no known deed restrictions, existing land use regulations nor ordinances that would have any affect on the subject property.

Assessment and Taxes

The subject property is assessed and taxed by the Perry and Knott County PVA Office in the Perry and Knott County Courthouses.

Appalachian Reality owns several large tracts of land in both counties. The PVA office for both counties were unable to determine the exact amount of tax being charged on the subject property. They did provide the following estimate which they believe to be true and reflective as shown in their records

2001 Millage Rate Per 1000 $
8.64 Perry County

2001 Millage Rate Per 1000
7.98 Knott County

Perry County
100 Acres.....$ 30,000.00

Knott County
1,354 Acres....$708,500.00

Estimated 2002 Taxes
Perry County....$ 259.00

Estimated 2002 Taxes
Knott County....$6,268.30

"As Is Value"

Assessment and Taxes
The above taxes are estimated by figures provided by the Perry County PVA Office based upon the 2000 Millage Rate.

Any large increase or decrease in the current tax rate is not expected. There are no special assessments for improvements that would affect the taxes of the subject property.

Highest and Best Use
The highest and best use definition is included at the beginning of the report in the Important Definitions section. The physical characteristics of the land such as size, shape, location, and topography have been considered. In addition, the analysis has included the surrounding developments, existing zoning, access to major transportation routes, availability of utilities, current trends, and demand for property of this type in the real estate market.

The land value is based on the premise of the highest and best use "as though vacant". There are four test which are taken into consideration in developing an opinion of highest and best use. These four tests include an examination of those uses that are physically possible, legally permissible, financially feasible, and maximally productive. Each criterion is considered cumulatively and provides the best analysis for the highest and best use of the land. The following is the highest and best use of the subject site **"as though vacant"**.

Physically Possible
The subject site is approximately 1,147 acres. The partial is of sufficient size and shape for a variety of uses which would include industrial, commercial, resort or residential development. Based on a site visit of the land and the site description as outlined in this report, there are no known physical restraints which inhibit development of the site.

Legally Permissible
The lack of zoning and the lack of restrictions in the subject area make it legally permissible to construct and operate any industry, business or residential facilities.

Financially Feasible
By considering the above factors it could be assumed that any of the above mentioned improvements would be financially feasible. The subject is located in an area that is easily accessible as a four county hub for economic development and trade.

Maximum Productivity
It is the opinion of this appraiser that maximum productivity would be constant during any 12 month period due to the industrial / commercial / residential development potential the subject may have.

Highest and Best Use "As Vacant"
The highest and best use of the subject land "as though vacant" would be for a Industrial, Commercial, Resort Residential or a combination of all. All criteria concerning highest and best use is confirmed in this report.

Marketability
The subject property marketability is projected to be average.

Marketing Period

Few recent sales were noted in the subject's immediate vicinity to help identify the normal marketing period for properties similar to the subject. Conversations with investors, property owners, and real estate agents in the neighborhood revealed marketing is often by word of mouth and transactions occur without advertising the properties for sale with sign. The subject neighborhood and the downtown Hazard business core are perceived by investors to be a good investment return through anticipation of long term holding and investment return through appreciation in property value. As such, properties like the subject may not be purchased for investment return from their cash flows, but rather for their anticipated appreciation in value over time.

Interviews and Realtors and sellers in the market indicated sales taking place within a 12 month marketing period; however, the sales periods may range from 12 months to well over a 24 month period which is typical for area.

Valuation Analysis

In estimating the market value of the subject property, the Cost, Income Capitalization, and Sales Comparison Approaches to value were considered. Each approach is briefly discussed with an explanation of that particular approach appropriate to this valuation assignment.

The Cost Approach To Value:

The cost approach is an addition of value, which combines the value of the land under the highest and best use, plus the depreciated replacement or reproduction cost of the improvements. Depreciation is the loss in value due to wear and tear, design and plan, or neighborhood influences. The cost approach is based upon the principle of substitution which holds a purchaser would most likely not pay more for a property than the cost of obtaining an equally desirable substitute site, plus the cost of replacing equally desirable and useful improvements thereon, assuming no costly delay is involved in making the substitution.

No improvements have been made or considered to the property at present. Therefore the cost approach is not considered a valid indicator of value for this report.

Income Capitalization Approach:

In the Income Capitalization Approach, the projected or current rental income from the property is shown with deductions for vacancy and collection losses and expenses. The estimated net operating income of the property is calculated. To support this net income estimate, operating statements of previous years and comparable properties may be reviewed along with

available operating expense estimates. The applicable capitalization method and appropriate overall capitalization rates are developed and used in computations to lead to an indication of value.

Again, the subject property is unimproved vacant land. No land leases are know in the area or region that could be applied to this method of valuation. Therefore, this approach to value was excluded from this appraisal.

Sales Comparison Approach:

The sales comparison approach, or market approach, is a method of estimating value whereby the subject property is compared with similar properties that have sold recently, or for which listing prices or offering figures are known. The information on typically comparable properties is used, and comparisons are made to demonstrate a probable price at which the subject property would be sold if it had been offered on the market.

Preferably, all sale properties are in the same area or in similar economic locations. The sales comparison approach is a systematic procedure for reflecting comparative shopping. Market supported adjustments are necessary to the comparable sales in many instances since no two properties are identical. If the comparable sale property is inferior to the subject for a particular characteristic, the sale price is enhanced by an appropriate adjustment factor. Conversely, if the comparable sale property is superior to the subject, then the sale price is reduced by a corresponding adjustment factor.

Comparable Sales are limited for properties similar to subject property. The market in this area makes it difficult if not impossible to obtain sales to use as comparable properties within a normally accepted time frame and proximity to the subject. To maintain the integrity of the concept of the Sales Comparison Approach to Value it is often necessary to utilize sales that are indeed comparable but may be somewhat older sales. This was certainly necessary with the subject property. I reviewed over seventy five sales that have transferred in the four county area within the past 8 years.

The data for fourteen sales was analyzed and considered in arriving at a per acre value to apply to the subject property. The sales ranged in size from 19.58 acres to 801.38 acres and a price range from $163.67 per acre to $1,066.00 per acre.

One particular sale stands out above the others. This sale took place in Letcher County on November 07, 2000. The sale transferred approximately 801.38 acres of property from Mr. Kenneth Manning to Mountain Materials for the sum of $450,000.00 or $561.53 per acre.

While the subject property is a much larger tract of land, the comparable is one of the largest transfers that has

Sales Comparison Approach (Continued)

taken place in the last five years. The property has been mined, has similar access to a similar roadway and is very much like the topography of the subject.

For the purpose of deriving an overall per acre value for this report an emphasis of 50% will be placed on this sale. The remaining emphasis will be derived from an analysis of the fourteen sales by the following statistical method.

The Measures of Central Tendency will be used and rounded to statistically establish this per acre value.

Measures of Central Tendency are data summaries which measure the way *observed data* is distributed. The measures are; mean value, median value and mode.

Defined:

Mean Value: A simple average of the observed data.

Median Value: The middle observation of data while arranged in order of magnitude.

Mode: The most common or frequent occurring observation of data.

These three measures were used with the following data:

Central Tendency Data Chart

Grantor Grantee	Date Of Sale	Sale Price	Acres	Price Per Acre
Napier Abner	03/94	$100,000	611	$163.67
Caudill Gay	10/01	$ 17,500	100	$175.00
Smith Joseph	10/98	$ 67,000	300	$223.00
Williams Cyprus	07/95	$ 13,500	50	$270.00
Noble Leslie Res.	10/00	$ 30,000	100	$300.00
Mullins Rollins	05/96	$ 33,000	100	$330.00
Davidson Pine Branch	07/99	$ 30,000	80	$375.00
Manning Mount. Mat.	11/00	$450,000	801.38	$561.53
Curtis Davidson	05/01	$ 45,000	75	$600.00
Pigman Slone	05/99	$ 75,000	125	$600.00
Couch Combs	10/00	$ 30,000	40	$750.00
Ascani Bane Co.	02/02	$ 80,000	100	$800.00
Adams Martin	05/01	$ 20,000	19.58	$1,021.00
Fugate Ascani	08/01	$ 80,000	75	$1,066.00

Mean Value: $ 517.00 per acre
Median Value: 468.00 per acre
Mode: 335.00 per acre

Average Value: $ 440.00 per acre

Price Established By Comparable Sale and Central Tendency:

An overall price per acre has been established by taking an average of the sales price per acre of the comparable sale and the statistical price per acre established by the three methods of Central Tendency.

Comparable.....$ 561.00
Statistical..... 440.00

Average.....$ 500.00

The price of $500.00 per acre is then applied and the value for the Sales Comparison Approach is established at $573,500.00

Reconciliation

Three approaches to value were sought in estimating the market value of the subject property. However, only one was applicable due to the lack of data and the fact that the subject was undeveloped land.

The Cost Approach and the Income Capitalization Approach to value were unable to be utilized due to these factors.

The Sales Comparison Approach was the strongest indication of worth. In the case of the subject property limited sales exist however sales were located which were of similar size and market appeal. In turn this indicated a price per acre for the subject property. Therefore, the Sales Comparison Approach has been relied on with complete emphasis.

In analyzing the data for the Sales Comparison Approach a weight factor was applied with equal emphasis to the single comparable sale most like the subject and the analysis of the data for the fourteen sales used.

The overall derived price of $500.00 per acre was established and when applied to the number of acres in the subject tract yielded a final indicated value for the subject property of $ 573,500.

Based on the current market conditions as of May 24, 2002 the subject property's ***Market Value "As IS"*** of the fee simple estate is:

FIVE HUNDRED SEVENTY FIVE THOUSAND DOLLARS ($575,000)

"Subject To-Site Improved"

Highest and Best Use

The highest and best use definition is included at the beginning of the report in the Important Definitions section. The physical characteristics of the land such as size, shape, location, and topography have been considered. In addition, the analysis has included the surrounding developments, existing zoning, access to major transportation routes, availability of utilities, current trends, and demand for property of this type in the real estate market.

The land value is based on the premise of the highest and best use "as though vacant". There are four test which are taken into consideration in developing an opinion of highest and best use. These four tests include an examination of those uses that are physically possible, legally permissible, financially feasible, and maximally productive. Each criterion is considered cumulatively and provides the best analysis for the highest and best use of the land. The following is the highest and best use of the subject site **"as though vacant".**

Physically Possible

The subject site is approximately 1,147 acres. The partial is of sufficient size and shape for a variety of uses which would include industrial, commercial, resort or residential development. Based on a site visit of the land and the site description as outlined in this report, there are no known physical restraints which inhibit development of the site.

Legally Permissible

The lack of zoning and the lack of restrictions in the subject area make it legally permissible to construct and operate any industry, business or residential facilities.

Financially Feasible

By considering the above factors it could be assumed that any of the above mentioned improvements would be financially feasible. The subject is located in an area that is easily accessible as a four county hub for economic development and trade.

Maximum Productivity

It is the opinion of this appraiser that maximum productivity would be constant during any 12 month period due to the industrial / commercial / residential development potential the subject may have.

Highest and Best Use "As Vacant"

The highest and best use of the subject land "as though vacant" would be for a Industrial, Commercial, Resort Residential or a combination of all. All criteria concerning highest and best use is confirmed in this report.

Marketability

The subject property marketability is projected to be average.

Marketing Period
Few recent sales were noted in the subject's immediate vicinity to help identify the normal marketing period for properties similar to the subject. Conversations with investors, property owners, and real estate agents in the neighborhood revealed marketing is often by word of mouth and transactions occur without advertising the properties for sale with sign. The subject neighborhood and the downtown Hazard business core are perceived by investors to be a good investment return through anticipation of long term holding and investment return through appreciation in property value. As such, properties like the subject may not be purchased for investment return from their cash flows, but rather for their anticipated appreciation in value over time.

Interviews and Realtors and sellers in the market indicated sales taking place within a 12 month marketing period; however, the sales periods may range from 12 months to well over a 24 month period which is typical for area.

Valuation Analysis
In estimating the market value of the subject property, the Cost, Income Capitalization, and Sales Comparison Approaches to value were considered. Each approach is briefly discussed with an explanation of that particular approach appropriate to this valuation assignment.

The Cost Approach To Value:
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Income Capitalization Approach:
In the Income Capitalization Approach, the projected or current rental income from the property is shown with deductions for vacancy and collection losses and expenses. The estimated net operating income of the property is calculated. To support this net income estimate, operating statements of previous years and comparable properties may be reviewed along with available operating expense estimates. The applicable capitalization method and appropriate overall capitalization rates are developed and used in computations to lead to an indication of value.

The subject property is unimproved vacant land. No land leases are know in the area or region that could be applied to this method of valuation. Therefore, this approach to value was excluded from this appraisal.

Sales Comparison Approach:

The sales comparison approach, or market approach, is a method of estimating value whereby the subject property is compared with similar properties that have sold recently, or for which listing prices or offering figures are known. The information on typically comparable properties is used, and comparisons are made to demonstrate a probable price at which the subject property would be sold if it had been offered on the market.

Preferably, all sale properties are in the same area or in similar economic locations. The sales comparison approach is a systematic procedure for reflecting comparative shopping. Market supported adjustments are necessary to the comparable sales in many instances since no two properties are identical. If the comparable sale property is inferior to the subject for a particular characteristic, the sale price is enhanced by an appropriate adjustment factor. Conversely, if the comparable sale property is superior to the subject, then the sale price is reduced by a corresponding adjustment factor.

Comparable Sales are limited for properties similar to subject property. The market in this area makes it difficult if not impossible to obtain sales to use as comparable properties within a normally accepted time frame and proximity to the subject. To maintain the integrity of the concept of the Sales Comparison Approach to Value it is often necessary to utilize sales that are indeed comparable but may be somewhat older sales. This was certainly necessary with the subject property. I reviewed over twenty sales that have transferred in the four county area within the past 8 years.

The data for four sales was analyzed and considered in arriving at a per acre value to apply to the subject property. The sales ranged in size from 8 acres to 381.2 acres and a price range from $1,877 per acre to $8,000 per acre.

The following four sales were located on Highway 15 North in the developing Perry County Industrial Park. These sales are the only example of planned industrial development in the area. The subjects' proximity to Hazard coupled with the proposed site improvements of roadway access and water capabilities would be very similar to the comparable sites located on Highway 15.

The Sales Were As Follows:

Sale 1

Grantor:	Adams
Grantee:	Hazard Airport
Date Of Sale:	November 1993
Sale Price:	$300,000.00
Acreage:	159.83
Price Per Acre:	$1,877

Sale 2

Grantor:	Enterprise Coal
Grantee:	Leslie Wood Prd
Date Of Sale:	November 1995
Sale Price:	$ 48,075
Acreage:	8
Price Per Acre:	$6,009.00

Sale 3

Grantor: Costal Coal
Grantee: Industrial Ath.
Date Of Sale: October 1998
Sale Price: $3,049,590.00
Acreage: 381.2
Price Per Acre: $8,000

Sale 4

Grantor: Costal Coal
Grantee: Industrial Ath
Date Of Sale: October 1998
Sale Price: $624,738.40
Acreage: 78.0923
Price Per Acre: $8,000.00

Sale one would have similar utility and purpose as that of tract 4, the golf course. Sale one was purchased for expansion of the airport run way with plans that the parcel would never be divided or used for any other purpose. For this purpose the price per acre of $1,877 has been used to estimate an approximate selling price for the tract where the golf course will be located.

Sales two, three and four were all parcels purchased for lot development. With the addition of a new road and water system to the subject, the comparable lots would be very similar in topography, purpose and utility as that of the subject (The Proposed Elk Run Business Park). The price of $8,000 per acre is suggested by the comparable sales. This figure will be applied to the acreage found in the three tracts of the business park.

1.) Elk Run Business Park
445.47 Acres
$ 3,563,760.00

2.) Elk Run Business Park
296.51 Acres
$2,372,080.00

3.) Elk Run Business Park
95.85 Acres
$ 766,800.00

4.) Elk Run Golf Course
309.17 Acres
$ 580,312.00

Total $7,282,952.00

Reconciliation

Three approaches to value were sought in estimating the subject to market value of the property. However, only one was applicable due to the lack of data and the fact that the subject was undeveloped land.

The Cost Approach and the Income Capitalization Approach to value were unable to be utilized due to these factors.

The Sales Comparison Approach was the only indication of worth. In the case of the subject property limited sales exist however sales were located which were of similar size and market appeal. In turn this indicated a price per acre for the subject property. Therefore, the Sales Comparison Approach has been relied on with complete emphasis.

Based on the current market conditions as of May 24, 2002 the subject property's "Subject To Market Value" is:

SEVEN MILLION THREE HUNDRED THOUSAND DOLLARS ($7,300,000)

Photo Addendum

Borrower/Client Enviro Power File No. ENVIRO
Property Address Spruce Pine Trail
City Hazard County Knott/Perry/Breathitt State KY Zip Code 41702
Lender Enviro Power

Sites On Spruce Pine Trail Property

Borrower/Client Enviro Power File No. ENVIRO
Property Address Spruce Pine Tract
City Hazard County Knott/Perry/Breathitt State KY Zip Code 41702
Lender Enviro Power

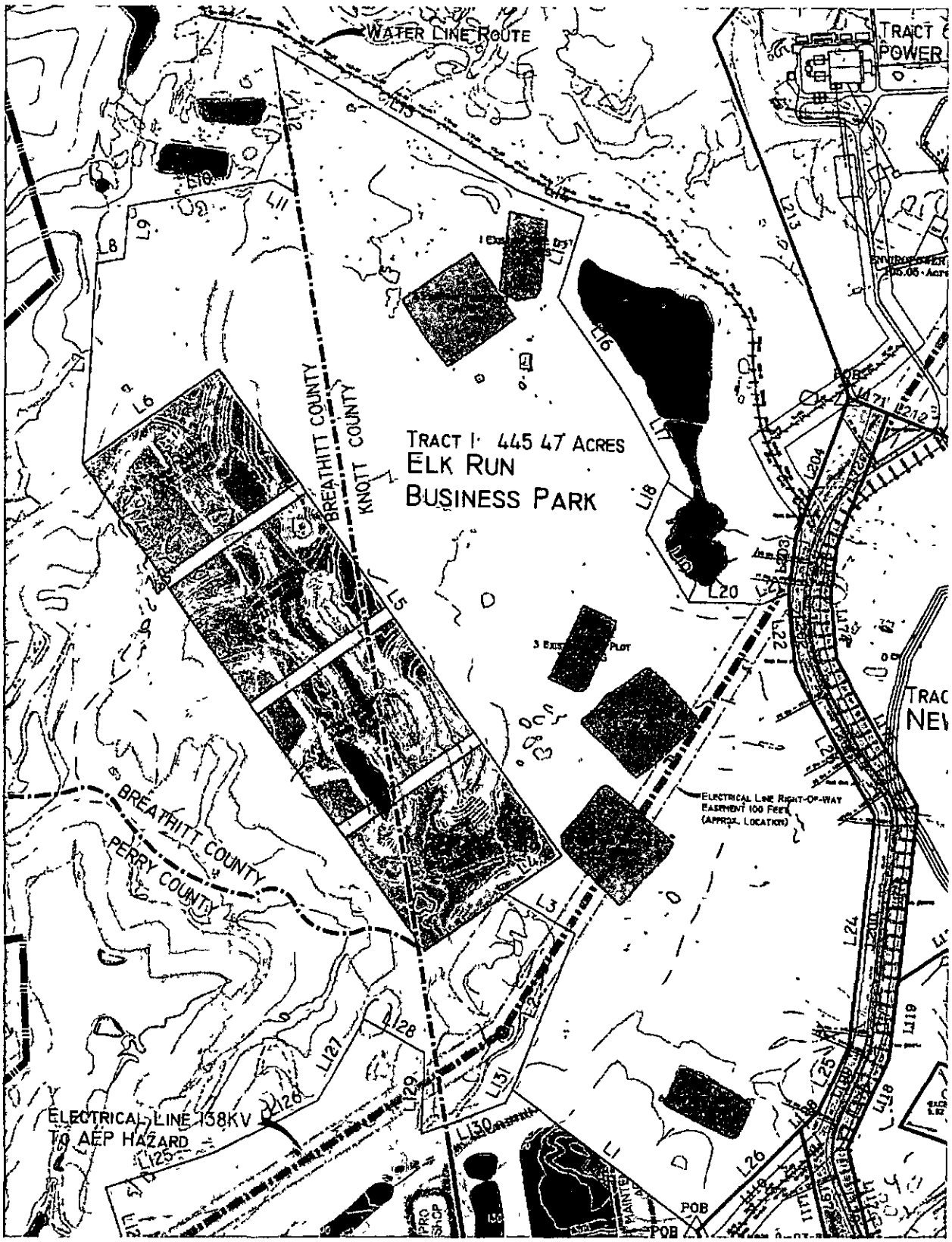
Sites On Spruce Pine Trail Property

Borrower/Client Enviro Power File No. ENVIRO
Property Address Spruce Pine Trail
City Hazard County Knott/Perry/Breathitt State KY Zip Code 41702
Lender Norwest Mine Services

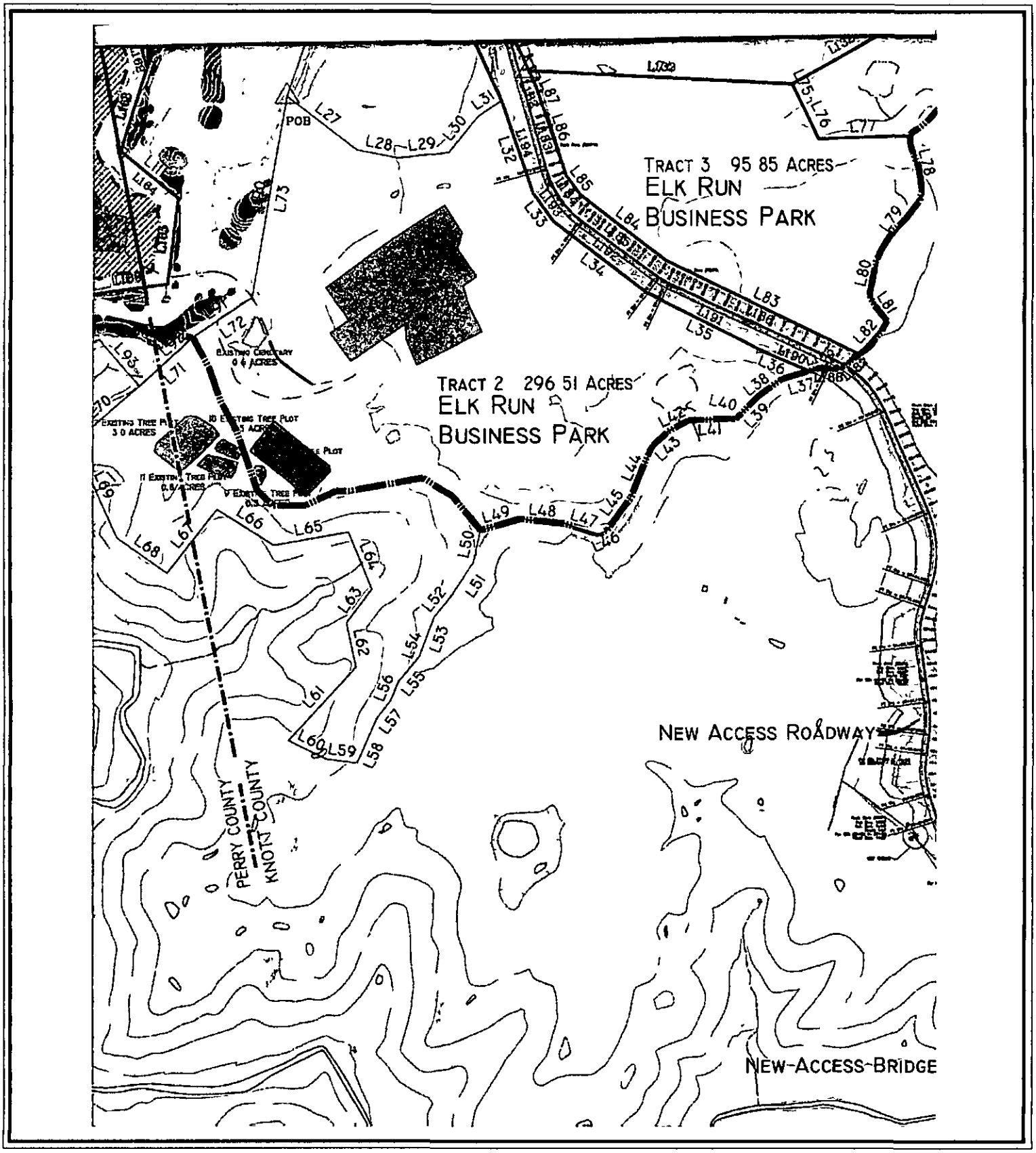
Sites On Spruce Pine Trail Property

Tract Site Map Addendum

Borrower/Client Enviro Power			
Property Address Spruce Pine Trail			
City Hazard	State KY	Zip 41702	
Lender Enviro Power			



Borrower/Client. Enviro Power		
Property Address. Spruce Pine Trail		
City. Hazard	State KY	Zip. 41702
Lender Enviro Power		

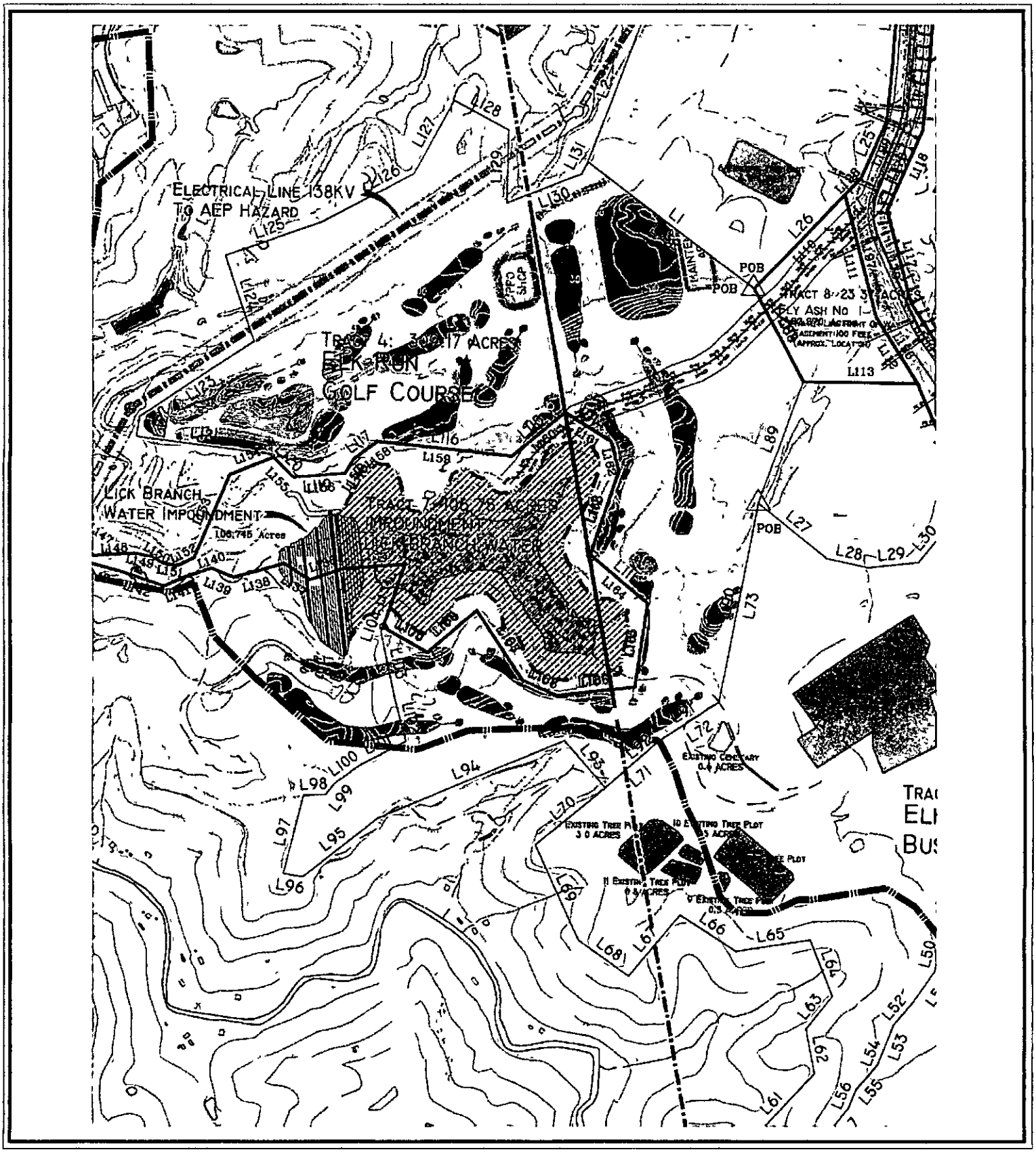


Martha Greer Realty

File No ENVIRO

Tract 4 309.17 Acres ELK RUN GOLF COURSE

Borrower/Client Enviro Power		
Property Address. Spruce Pine Trail		
City. Hazard	State KY	Zip. 41702
Lender Enviro Power		



Flood Map Addendum

FLOOD HAZARD BOUNDARY MAP

KNOTT COUNTY
KENTUCKY
UNINC. AREAS

PAGE 3 OF 6

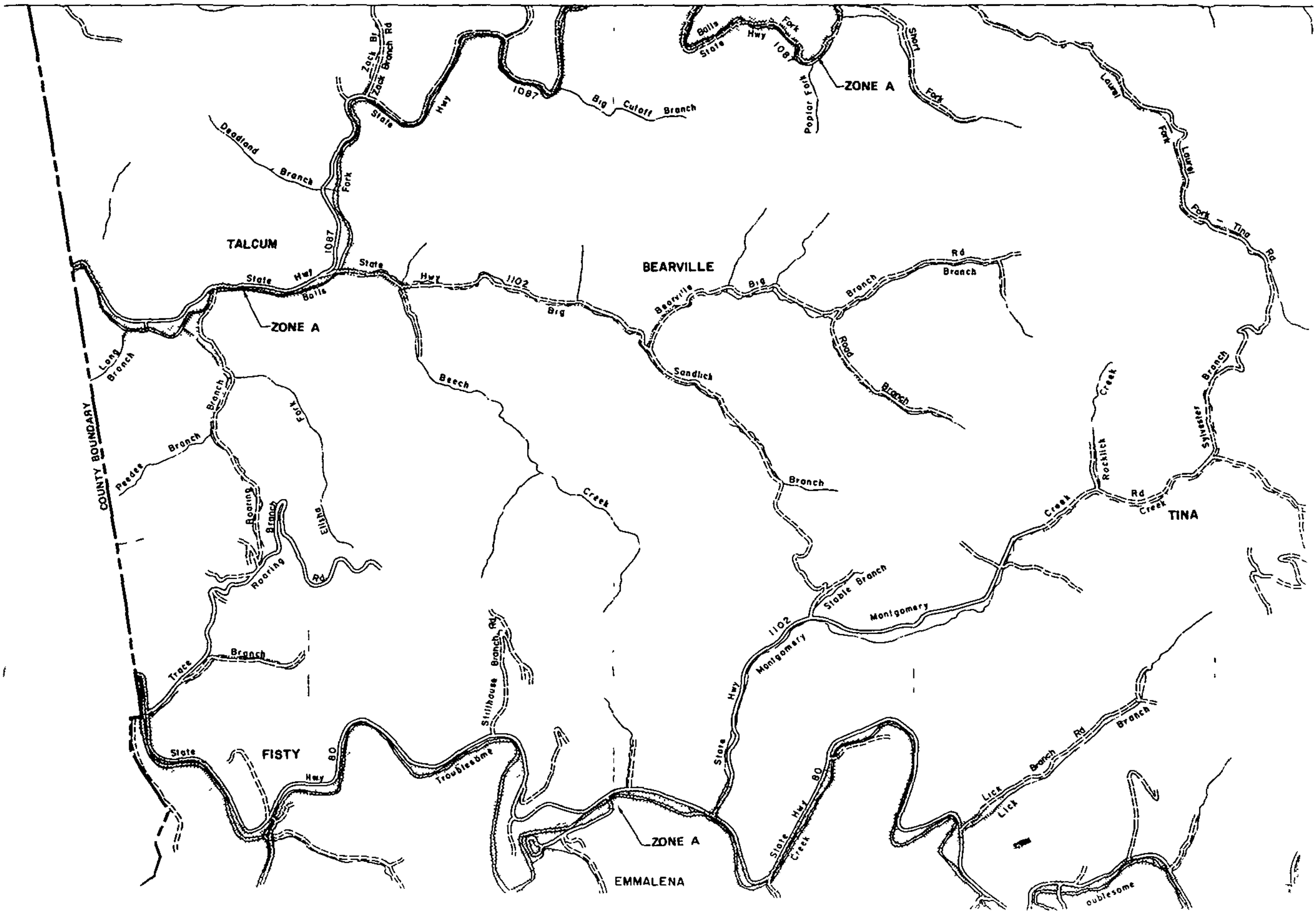
(SEE MAP INDEX FOR PAGES NOT PRINTED)

EFFECTIVE DATE:
NOVEMBER 4, 1977

COMMUNITY–PANEL NUMBER

210340 0003 A

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION


TALCUM
BEARVILLE
TINA
FISTY
EMMALENA
ZONE A
ZONE A
ZONE A
COUNTY BOUNDARY
Zack Br
Zack Branch Rd
State Hwy 1087
Big Cutoff Branch
Balls Fork
Poplar Fork
Short Fork
Laurel Fork
Laurel Fork - Tina Rd
Deadland Branch
Fork
State Hwy 1102
Balls
Big Branch
Bearville Big Branch Rd
Road Branch
Long Branch
Pedee Branch
Branch
Roaring Branch
Roaring Rd
Elisha Fork
Beech Creek
Sandlick Branch
Sylvester Branch
Rocklick Creek
Creek Rd
Creek
Stable Branch
Montgomery
Montgomery
Trace Branch
Stillhouse Branch Rd
State Hwy 80
Troublesome
State Hwy
Creek
Lick Branch Rd
Branch
Lick
oublesome

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

BREATHITT COUNTY, KENTUCKY
UNINCORPORATED AREAS

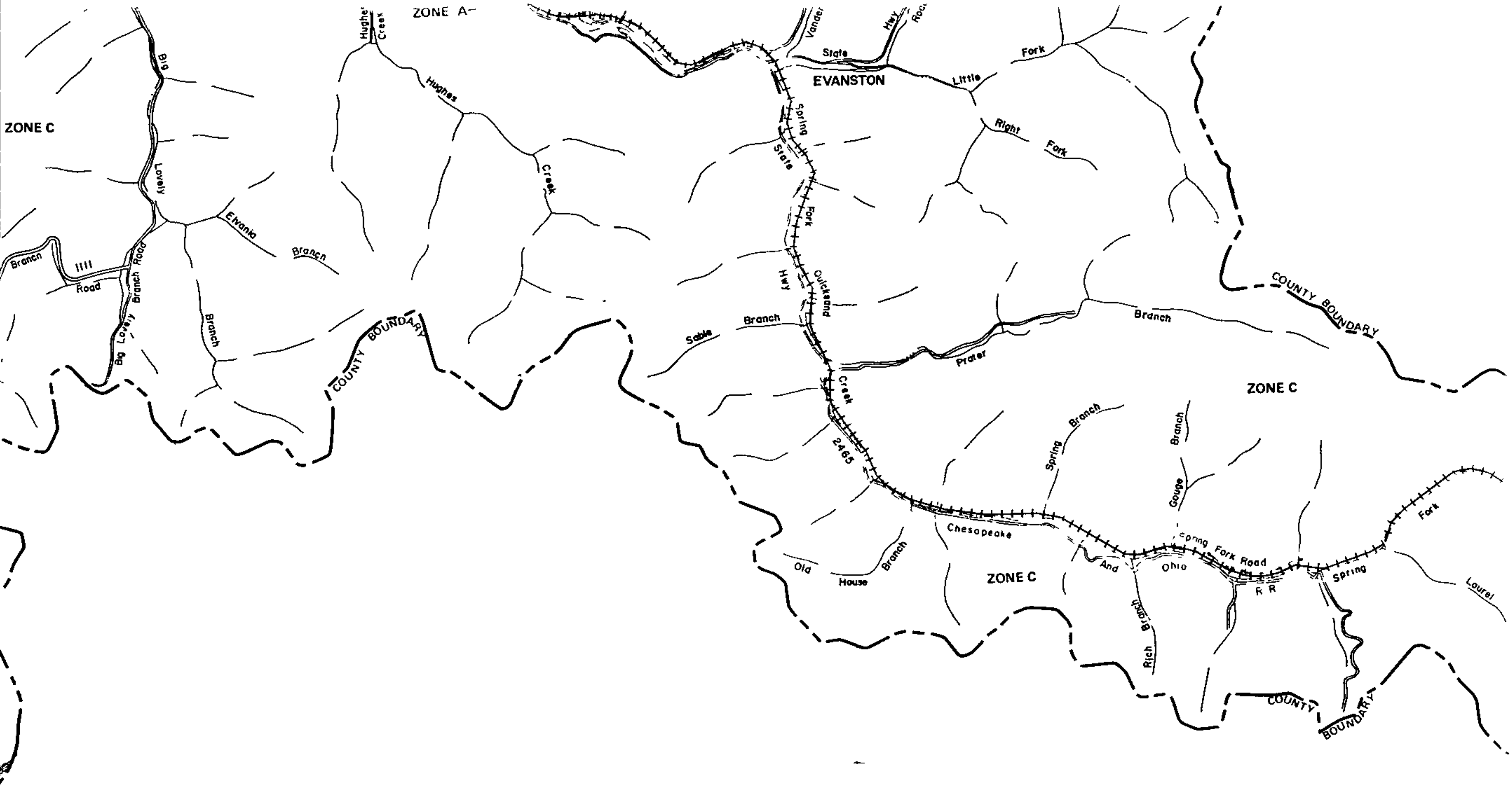
PANEL 150 OF 200
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
210023 0150 B

EFFECTIVE DATE:
SEPTEMBER 27, 1985

Federal Emergency Management Agency

ZONE C



ZONE A
ZONE C
EVANSTON
ZONE C
ZONE C
ZONE C
Big Lovely
Lovely
Big Lovely Branch Road
Branch
Road
1111
Elvania Branch
Branch
Hughes Creek
Hughes Creek
Vander
State Hwy
Road
Little Fork
Right Fork
Spring Fork
State Hwy 2465
Quicksand Creek
Sable Branch
Prater Branch
Spring Branch
Gouge Branch
Chesapeake And Ohio R R
Spring Fork Road
Old House Branch
Rich Branch
Spring Fork
Laurel Fork
COUNTY BOUNDARY
COUNTY BOUNDARY
COUNTY BOUNDARY

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

PERRY COUNTY, KENTUCKY
(UNINCORPORATED AREAS)

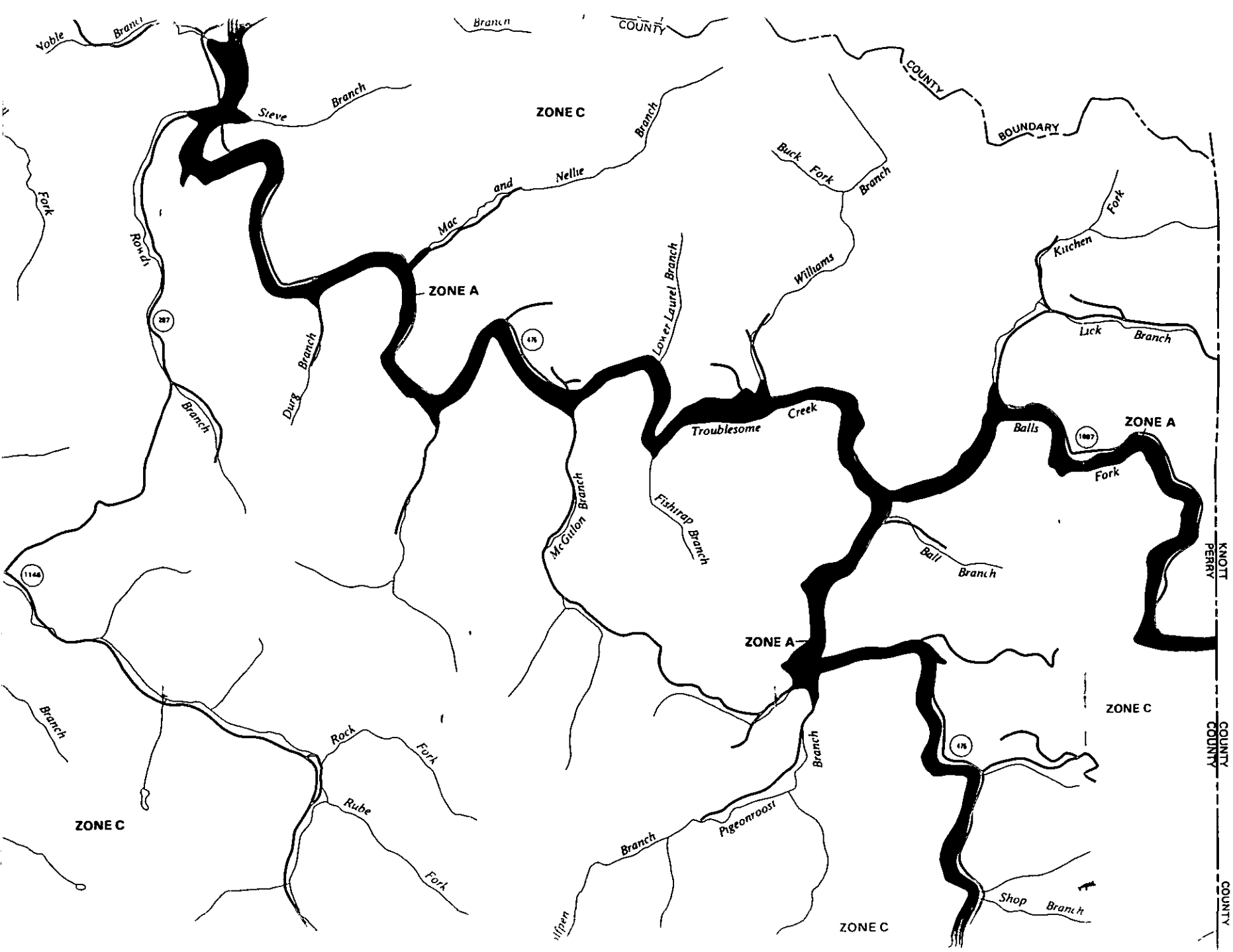
PANEL 75 OF 200
(SEE MAP INDEX FOR PANELS NOT PRINTED)

Rowdy
Gry

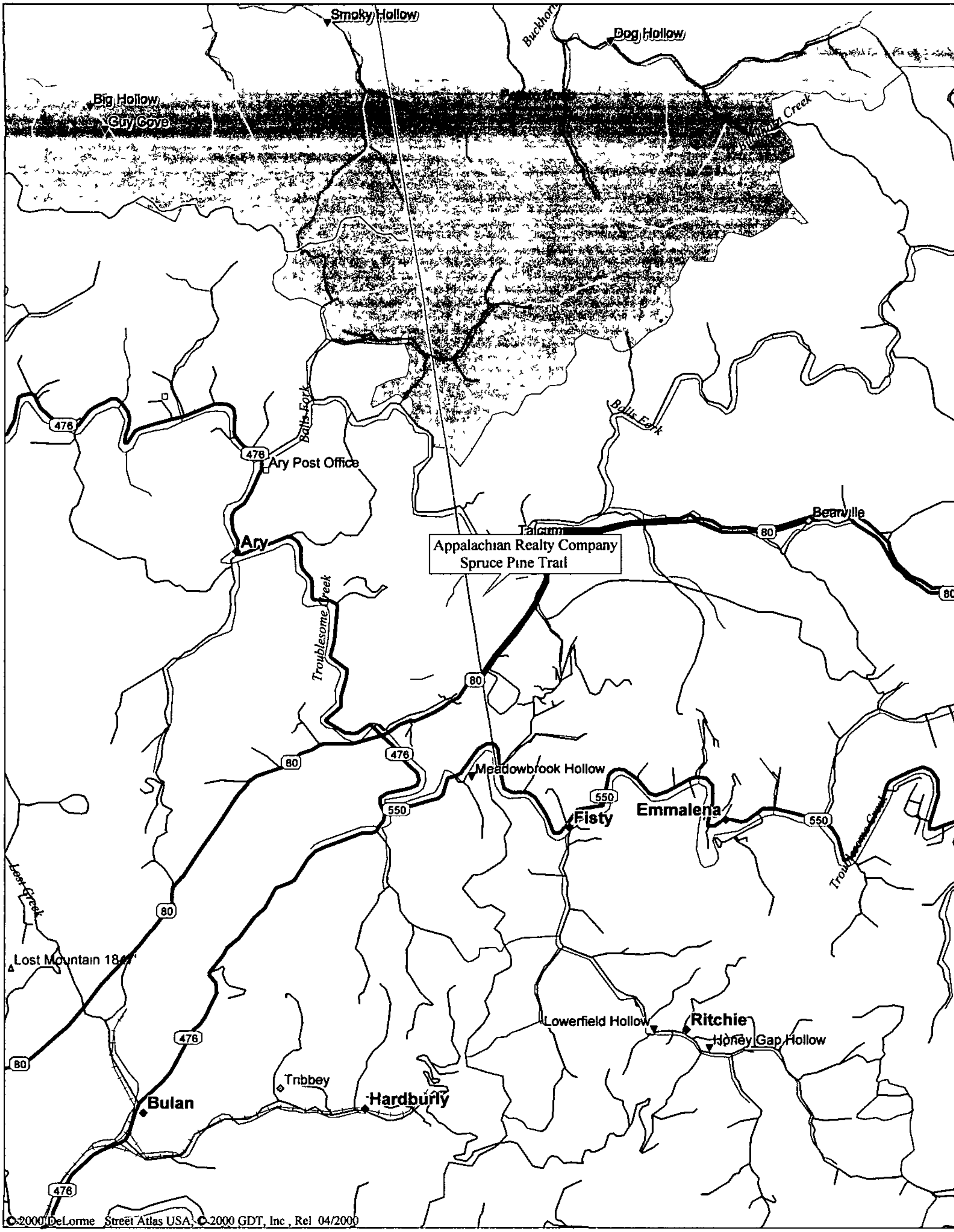
COMMUNITY-PANEL NUMBER
215191 0075 B

MAP REVISED
JULY 18, 1985

Federal Emergency Management Agency

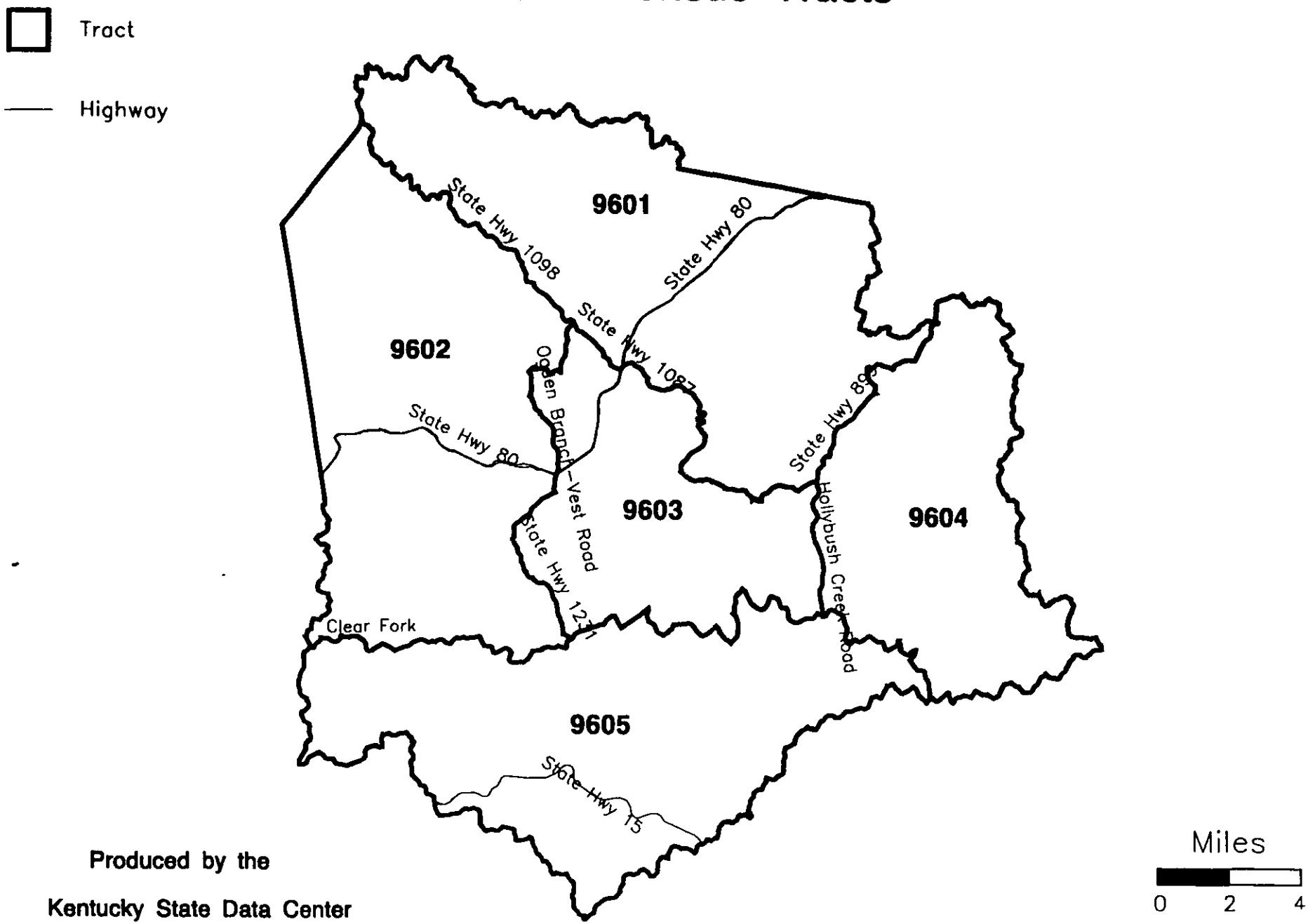

Noble Branch
Steve Branch
ZONE C
Mac and Nellie Branch
Buck Fork Branch
COUNTY BOUNDARY
Fork
Rowdi
287
ZONE A
476
Lower Laurel Branch
Williams
Kitchen Fork
Lick Branch
Duff Branch
Branch
Troublesome Creek
Balls Fork
1667
ZONE A
McGillon Branch
Fishtrap Branch
Ball Branch
KNOTT COUNTY
PERRY COUNTY
1148
ZONE A
ZONE C
Branch
Rock Fork
Rube Fork
ZONE C
Branch
Pigeonroost Branch
476
Shop Branch
ZONE C
COUNTY

Location Map


Smoky Hollow
Dog Hollow
Big Hollow
Guy Cove
Balls Fork
476
478
Ary Post Office
Ary
Troublesome Creek
Talcum
Appalachian Realty Company
Spruce Pine Trail
80
Bearville
476
Meadowbrook Hollow
550
Fisty
Emmalena
Lost Creek
Lost Mountain 1847'
Lowerfield Hollow
Ritchie
Honey Gap Hollow
Tribbey
Hardburly
Bulan
© 2000 DeLorme Street Atlas USA, © 2000 GDT, Inc, Rel 04/2000

Census Map Addendum

Knott County
1990 Census Tracts



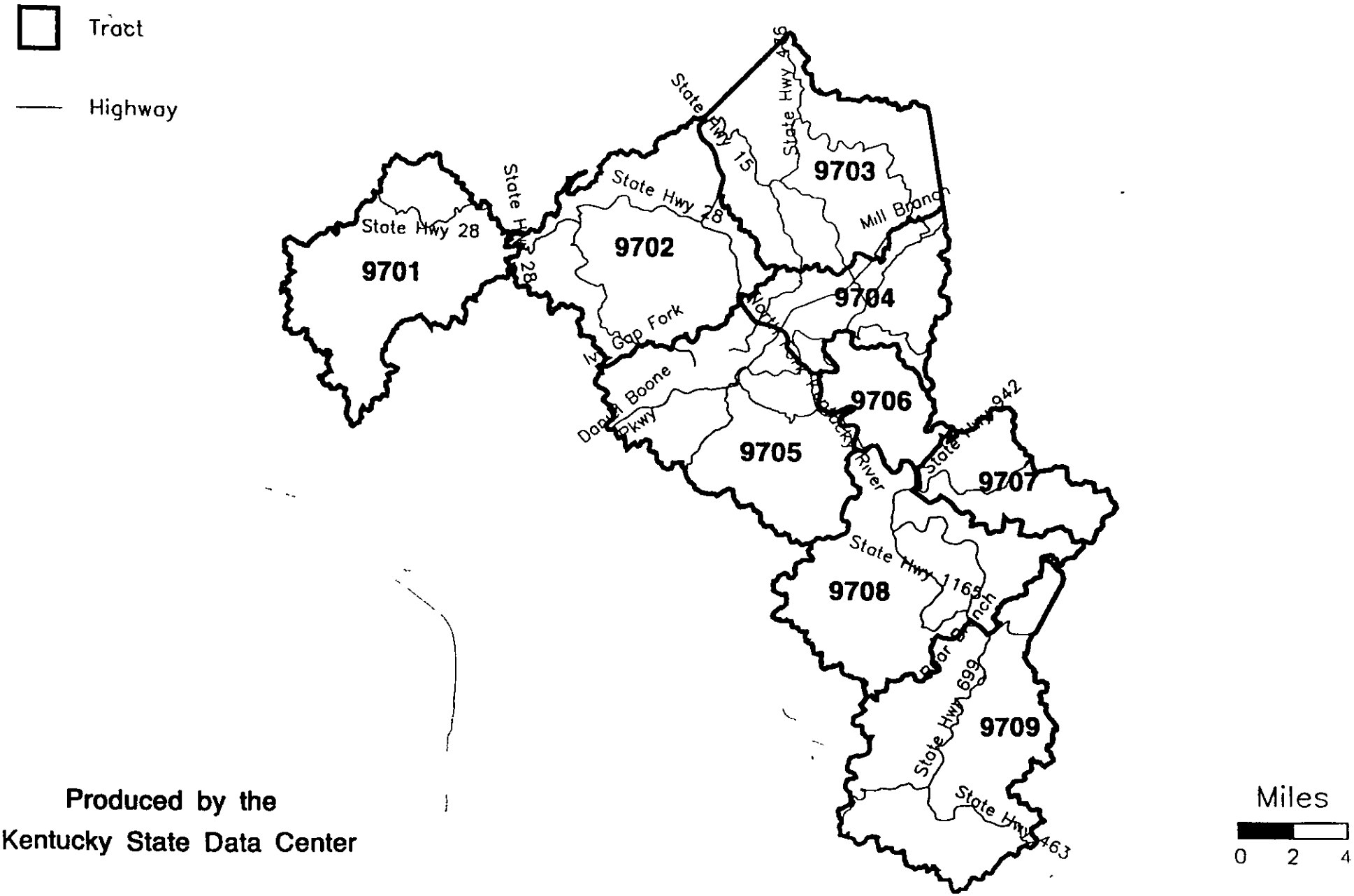
Produced by the

Kentucky State Data Center

21/193

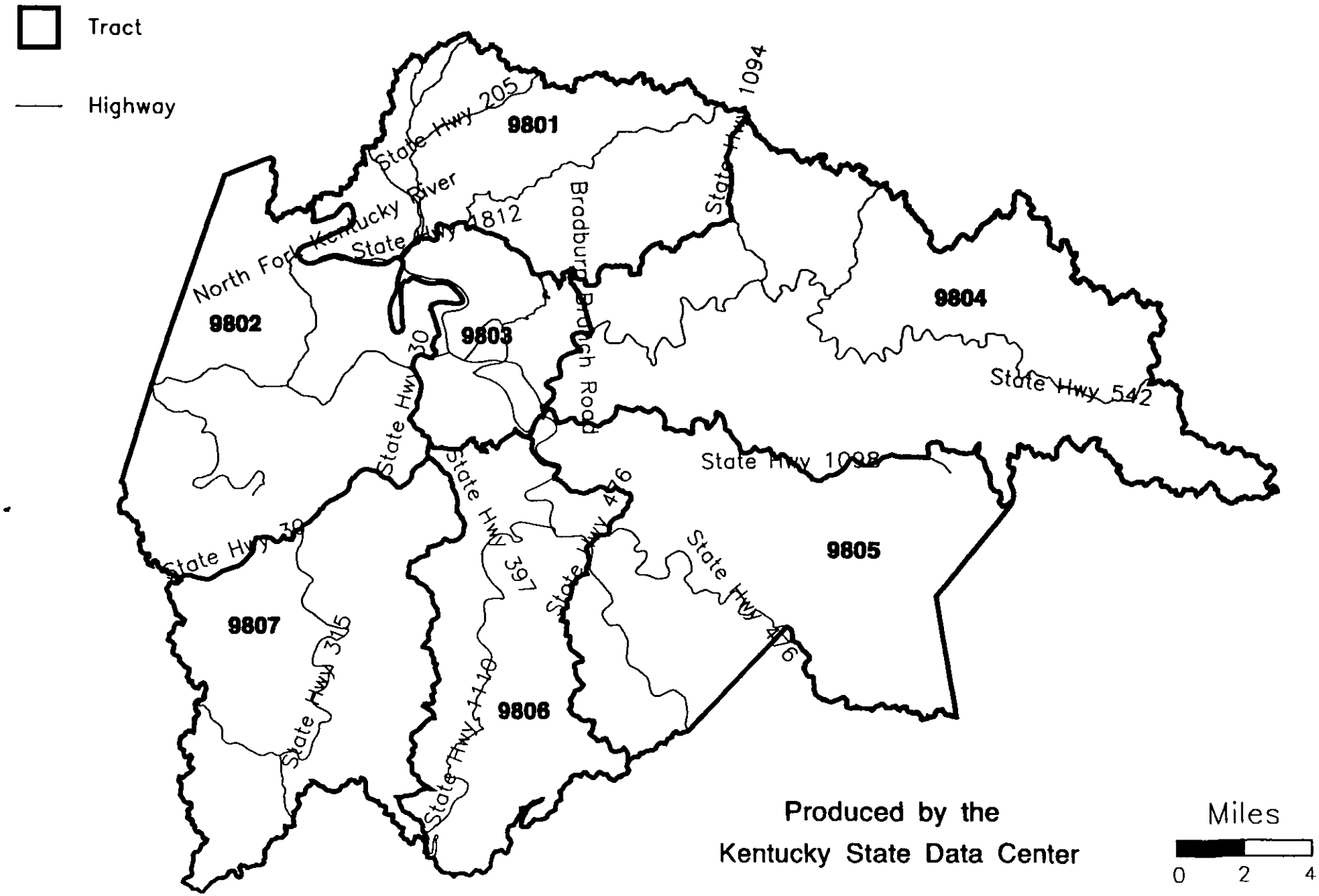
Perry County

1990 Census Tracts



Produced by the
Kentucky State Data Center

Breathitt County
1990 Census Tracts



AIR-SOIL & WATER
ENVIRONMENTAL CONSULTING & TESTING LABORATORIES

May 23, 2002

Robin Morecroft, P.E.
Director of Project Management
EnviroPower LLC
28th Floor
Lexington Financial Center
Lexington, KY 40508

Subject: Compatibility between land use by a Utility and a single family residence located approximately 2.5 miles from the Stack of the proposed utility

Dear Mr Morecroft

Air Soil & Water Environmental Consulting and Testing Laboratories, Inc ASW has prepared a worst-case model of ambient environmental noise levels emitted from the proposed power plant equipment. The following details the basic assumptions of the model and site conditions.

MODEL ASSUMPTIONS:

1. The worst-case environmental ambient noise levels emitted from the power plant equipment is modeled after the Noise Evaluation of the Burbank Magnolia Power Project. While not all of the equipment assessed in the Burbank evaluation will be present at The Kentucky Mountain Power Plant, similar products will be used. i.e. the combustion turbine and the heat recovery steam generator will not be used at Kentucky Mountain Power, a similar product to the heat recovery steam generator will be used.

2. That there are no natural sound barriers to deflect or absorb noise and that sound pressure levels are not contained by a structure.

3. That day and night levels of noise are constant.

4. That Sound Pressure Level drops with each doubling of distance. [1]

5. That Adjusted Yearly Average Day Night Sound Levels in residential neighborhoods with extensive outdoor use is 65 dB. [2]

6. That Adjusted Yearly Average Day Night Sound Levels for commercial-wholesale, some retail, industrial manufacturing, and utilities is 80 dB.[2]

7. The proposed Power Plant and Coal Handling Facility physically occupies 195.05 acres. The entire property controlled by the owner is approximately 4,000 acres.

The following table estimates the Sound Pressure Level Drop over distance for each piece of equipment assessed in the Burbank Magnolia Power Project Evaluation. [3]

HP/IP BOILER FEEDWATER PUMPS

dBA	Feet	Results
90	3	90.65
90	50	70.3
90	100	48.6
90	150	26 9
90	200	5.2
90	250	-16.5

CLOSED CYCLE COOLING WATER PUMPS

dBA	Feet	Results
90	3	90.65
90	50	70.3
90	100	48.6
90	150	26 9
90	200	5.2
90	250	-16.5

[1] Figure 3.3 Effects of Distance on Sound Pressure Levels, Van Nostrand Reinhold, Environmental Engineering Series 1969

[2] American National Standard (ANSI S12.9-1998/ Part 5, Quantities and Procedures for Descriptive and Measurement of Environmental Sound Part 5 Sound Level Descroptors fro Determination of Compatible Land Use

[3] Sound Pressure Level over distance is calculated using the equation L_{eq}(equipment)=E.L +10log(UF) – 20log {D/50}-10Glog{D/50}

COOLING TOWER CELL

dBA	Feet	Results
65	400	65.5
65	450	65.3
65	500	65.2
65	550	65.0
65	600	64.9
65	650	64 7
65	700	64.5
65	750	64.4
65	800	64.2
65	850	64.0
65	900	63 9
65	950	63.7
65	1000	63.6
65	2000	60.3
65	4000	53.8
65	6000	47.3
65	8000	40.8
65	10000	34 3

GAS COMPRESSOR

dBA	Feet	Results
90	3	90.6
90	50	70.2
90	100	48.6
90	150	26.9
90	200	5.2
90	250	-16.4

STEP-UP TRANSFORMERS

dBA	Feet	Results
85	1	85.6
85	50	21.9
85	100	-43.2

CONDENSATE PUMPS

dBA	Feet	Results
90	3	90.65
90	50	70.3
90	100	48.6
90	150	26.9
90	200	5.2
90	250	-16.5

STEAM TURBINE AND GENERATOR

dBA	Feet	Results
65	400	65.5
65	450	65.3
65	500	65.2
65	550	65.0
65	600	64.9
65	650	64 7
65	700	64.5
65	750	64.4
65	800	64.2
65	850	64.0
65	900	63.9
65	950	63 7
65	1000	63.6
65	2000	60.3
65	4000	53.8
65	6000	47.3
65	8000	40.8
65	10000	34.3

COMBUSTION GAS TURBINE AND GENERATOR

dBA	Feet	Results
65	400	65 5
65	450	65.3
65	500	65.2
65	550	65.0
65	600	64.9
65	650	64.7
65	700	64.5
65	750	64.4
65	800	64 2
65	850	64.0
65	900	63.9
65	950	63.7
65	1000	63.6
65	2000	60.3
65	4000	53.8
65	6000	47.3
65	8000	40.8
65	10000	34.3

HEAT RECOVERY STEAM GENERATOR (HRSG)

dBA	Feet	Results
65	400	65.5
65	450	65.3
65	500	65.2
65	550	65.0
65	600	64.9
65	650	64.7
65	700	64.5
65	750	64.4
65	800	64.2
65	850	64 0
65	900	63.9
65	950	63.7
65	1000	63.6
65	2000	60.3
65	4000	53.8
65	6000	47 3
65	8000	40.8
65	10000	34.3

SOUND PRESSURE LEVELS REPRESENT MAXIMUM A-WEIGHTED SOUND PRESSURE LEVELS PER UNIT.

CONCLUSION:

Based upon the above estimated Sound Pressure Level Drop the residential property located approximately 2.5 miles from the proposed power plant will not be adversely impacted by noise.

Prepared By:

John L. Keller CES, CEI, IH

BRIGHTON ENGINEERING COMPANY
201 Brighton Park Boulevard
Frankfort, KY 40601

Phone: 502-695-2300 e-mail: lmiracle@brighton-group.net FAX: 502-695-1497

May 20, 2002

Tom Ryavec
EnviroPower, LLC.
2810 Lexington Financial Center
250 West Main Street
Lexington, Kentucky 40507

RE: Knott County
Elk Run Business Park
Access Road

Dear Mr. Ryavec:

KY 80 is the major route providing access to the project area from the east and west. KY 80 was designed as a Resource Recovery Road and is capable of accommodating high volumes of heavy truck traffic especially heavy coal trucks. The roadway consists of four lanes, two lanes in each direction, with heavy duty pavement and a raised median for traffic separation. Currently available traffic counts indicate that approximately 6,795 vehicles per day pass through the proposed project area. AASHTO guidelines suggest that a four lane facility of this type can accommodate approximately 1,500 vehicles per hour for each traffic lane or approximately 144,000 vehicles per day.

Access to the project area from KY 80 will consist of two phases.

During the first phase of the project, the first year of construction, all traffic will access the site from KY 80 along KY 1087 and an existing coal haul road. The existing roadway functions as a coal haul road and has been upgraded to accommodate heavy coal trucks. This route currently accommodates approximately 680 vehicles per day which is primarily traffic associated with the existing mining operation of Starfire Mining Company. Construction traffic will result in an estimated 420 additional vehicles per day. No conflicts or impact to traffic is anticipated due to anticipated offsets in peak times of arrival associated the existing mining activity and the proposed construction activity. No increase in fugitive dust is anticipated since the existing mining activity is required to minimize

fugitive dust through the use of water and dust palliatives.

As part of the first phase of the project the Kentucky Mountain Power project, and the Knott County Fiscal Court in cooperation with the Kentucky Transportation Cabinet is designing and will subsequently construct a new access road to the Elk Run Business Park and the proposed EnviroPower facility.

The new access road will consist of two 12-feet traffic lanes with fully paved shoulders. The traffic lanes will consist of a heavy duty pavement which is designed to accommodate heavy coal trucks. Construction activities involving the access road will be constantly monitored by the Kentucky Transportation Cabinet and will be conducted under the Departments dust and erosion control guidelines that will minimize impacts to adjacent areas.

During the second phase of this project this new access road will provide access to the business park and the Kentucky Mountain Power site. This new access road will remove all project traffic from existing local roads and provide access to the project area directly from KY 80. The new access road is designed in accordance with the strict guidelines of the Kentucky Transportation Cabinet and will accommodate anticipated traffic and increased truck traffic to the facility. Since the new access road employs a new bituminous surface it will minimize impacts due to fugitive dust and noise. All traffic to and from the Business Park and Kentucky Mountain Power Facility will utilize the new access road.

Once the construction phase is complete and the power plant is operating, Kentucky Mountain Power estimates that 736 vehicles per day are expected to access the plant site via the new paved road. Approximately 71% of this traffic will be directly associated with the delivery of waste fuel, raw coal and limestone. The trucks hauling in this material will all be covered to eliminate the possibility of fugitive dust. The remainder of the traffic will be from employees at the power plant and the water treatment plant along with the various vendors necessary to service the facility.

No rail service is involved in this project.

Thank you,
Brighton Engineering Company

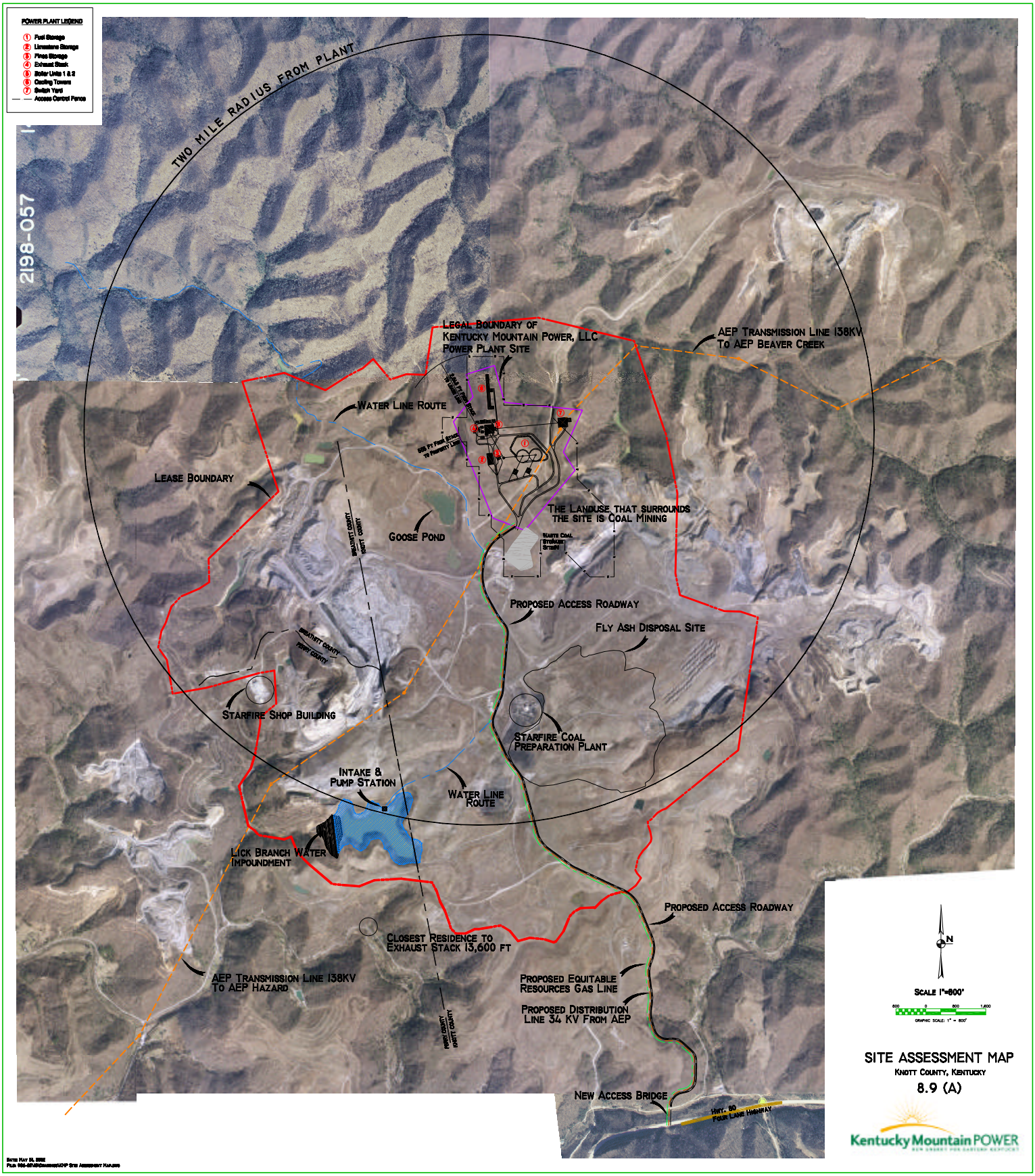
Luther A. Miracle, P.E.

8.8 Mitigating Measures

As fully described in Sections 8.1 through 8.7 and as indicated on Site Map 8.9 (A), Kentucky Mountain Power has made every effort to locate this site in a remote area so that no mitigation measures would be required.

Independent engineering reports indicate minimal scenic, noise, and traffic impacts caused by this project.

This project, along with the associated improvements to the areas, such as the bridge, business park, golf course, and potable water, will be marked improvement to this previously strip mined property.


POWER PLANT LEGEND
1 Fuel Storage
2 Limestone Storage
3 Fines Storage
4 Exhaust Stack
5 Boiler Units 1 & 2
6 Cooling Towers
7 Switch Yard
Access Control Fence
TWO MILE RADIUS FROM PLANT
2198-057
LEGAL BOUNDARY OF KENTUCKY MOUNTAIN POWER, LLC POWER PLANT SITE
AEP TRANSMISSION LINE 138KV TO AEP BEAVER CREEK
WATER LINE ROUTE
LEASE BOUNDARY
GOOSE POND
THE LANDUSE THAT SURROUNDS THE SITE IS COAL MINING
PROPOSED ACCESS ROADWAY
FLY ASH DISPOSAL SITE
STARFIRE SHOP BUILDING
STARFIRE COAL PREPARATION PLANT
INTAKE & PUMP STATION
WATER LINE ROUTE
LICK BRANCH WATER IMPOUNDMENT
PROPOSED ACCESS ROADWAY
CLOSEST RESIDENCE TO EXHAUST STACK 13,600 FT
AEP TRANSMISSION LINE 138KV TO AEP HAZARD
PROPOSED EQUITABLE RESOURCES GAS LINE
PROPOSED DISTRIBUTION LINE 34 KV FROM AEP
NEW ACCESS BRIDGE
HWY. 80 FOUR LANE HIGHWAY
N
SCALE 1"=600'
SITE ASSESSMENT MAP
KNOTT COUNTY, KENTUCKY
8.9 (A)
Kentucky Mountain POWER

Lease Agreement

This Lease Agreement, made and entered into this the 1st day of December, 1999, by and between APPALACHIAN REALTY COMPANY, a Kentucky corporation, having a mailing address of 401 Tori Drive, Hazard, Kentucky 41701 ("LESSOR") and ENVIRO-POWER, LLC, a Kentucky limited liability company, having a mailing address of 1500 N. Big Run Road, Ashland, Kentucky 41102 ("LESSEE").

WITNESSETH:

WHEREAS, the Lessor is the owner of certain real property constituting approximately seventeen thousand (17,000) acres located near Rowdy, Knott County, Kentucky, and hereinafter referred to as the "Property", all as more particularly described on a topographical map labeled Exhibit "A" which is attached hereto and incorporated herein by reference, as a material part of this Agreement;

WHEREAS, the Parties have agreed to the Lessor's granting to the Lessee a lease of the surface estate, and all attendant rights thereto, with the exception of a tract of approximately five (5) acres delineated in blue on Exhibit "A" upon which is located a coal preparation plant is excepted from this Agreement between the Parties, of approximately four thousand (4000) acres more accurately depicted on Exhibit "A" and shaded yellow, with the balance of the Lessor's thirteen thousand (13,000) surrounding, contiguous acres being depicted in green on Exhibit "A"; and

WHEREAS, the Parties have agreed as a further inducement to the Lessee's accepting a lease of the four thousand (4,000) acre surface tract, the additional unlimited right to withdraw any and all water from beneath the Lessor's adjoining lands (described in green), and the right of

ingress and egress to construct roads and utility lines at locations agreeable to the Parties for the transmission of water, electricity, natural gas, oil, and coal and ash over, across and beneath all of the Lessor's property, so long as the location for all of these improvements and structures are selected so as to be compatible with, and subservient to the Lessor's mineral estate and the coal mining rights attendant thereto;

NOW, THEREFORE, for and in consideration of the recitals, the terms, covenants and conditions set forth herein and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1.0 AGREEMENT OF LEASE. The Lessee agrees to lease the Property from the Lessor, and the Lessor agrees to lease the Property to the Lessee, upon the terms and conditions set forth herein.

2.0 LEASE TERM. The Lease term shall be for a total of one thousand one hundred eighty-eight (1188) months, beginning on or about December 1, 1999 and terminating on December 1, 2098.

The Lessor grants to the Lessee the option to renew this Lease Agreement for one additional ninety-nine (99) year term upon written notice from the Lessee to the Lessor of its intent to exercise said option; said written notice shall be delivered to the Lessor not later than ninety (90) days prior to December 1, 2098, the termination date of the original Lease Term as set forth hereinabove.

3.0 RENT. The Lessee shall pay to the Lessor an advance rental of One Million Two Hundred Thousand Dollars ($1,200,000) payable over a period of the initial eighteen (18) months of this Agreement, in accord with the following schedule:

a. February 15, 2000:	Twenty Five Thousand Dollars ($25,000.00)
b. June 1, 2000:	Twenty Five Thousand Dollars ($25,000.00)
c. September 1, 2000:	Twenty Five Thousand Dollars ($25,000.00)
d. December 1, 2000:	Twenty Five Thousand Dollars ($25,000.00)
e. on or before June 1, 2001:	One Million One Hundred Thousand Dollars ($1,100,000)

a rental reflecting a payment of Three Hundred Dollars ($300.00) per acre for the boundary of approximately four thousand (4,000) acres of surface described in Exhibit "A", constituting the Property which is the subject of this Lease Agreement.

4.0 USE OF PREMISES. The Lessee shall have the exclusive right to use and occupy the Property for any and all lawful purposes, the absolute and unfettered right of lateral and subjacent support, and the right to withdraw groundwater from beneath the Property in unlimited amounts deemed necessary and appropriate by the Lessee to meet the Lessee's needs for the use of the surface of the Property.

5.0 REPAIRS. The Lessee shall, at its own expense, keep and maintain all roads, improvements, utility easements, and any other fixtures in a reasonably good state of repair at all times during the term of this Lease, and upon termination of this Lease, at whatever time and for whatever reason, the Lessee shall surrender and deliver the Property in as good condition as same is now in, ordinary obsolescence and acts of God excepted.

6.0 TAXES AND INSURANCE. The Lessee shall be responsible for property taxes on the surface Property and any improvements thereon, and any and all taxes levied by any governmental authority associated or resulting from the Lessor's use of the surface estate or water

withdrawal, while the Lessor shall retain liability for all taxes levied upon the mineral estate lying beneath the Property.

7.0 DEFAULT.

7.1 DEFAULTS OR BREACHES BY LESSOR. In the event that the Lessor, its successors or assigns, should fail to keep or perform any of the covenants, stipulations, conditions, or provisions of this Lease on its part to be made or performed, for a period of ninety (90) days after written notice from the Lessee to the Lessor, its successors or assigns, specifying the nature of such default or breach, as specified in the notice, and within the stated ninety (90) day period, then in such event the Lessee may escrow rental payments until such breach has been cured.

7.2 DEFAULTS OR BREACHES BY LESSEE. In the event that the Lessee shall fail to keep or perform any of the covenants, stipulations, conditions, or provisions of this Lease for a period of ninety (90) days after written notice from the Lessor to the Lessee specifying the nature of such default or breach, and in the event the Lessee shall fail to take steps to remedy the default or breach, as specified in the notice within the ninety (90) day period, the Lessor may then declare a breach. In the event the Lessor is required to take action as a result of default by the Lessee, all attorney's fees and costs incurred by the Lessor in conjunction therewith will be paid by the Lessee.

8.0 RIGHT OF ENTRY. Between the date hereof and occupancy, the Lessor hereby grants the Lessee and/or the Lessee's employees, engineers, geologists, inspectors, representatives and surveyors and other agents the right to enter the Property for the purposes of performing surveys, inspecting, testing, conducting surface or sub-surface soil, geologic and other tests, and making such other reasonable observations as the Lessee shall deem appropriate.

9.0 LESSOR'S REPRESENTATIONS AND WARRANTIES. The Lessor hereby

represents and warrants to the Lessee as follows:

9.1 That the Lessor is, and shall be as of the execution of this Lease, the true and lawful owner of the Property designated in Exhibit A, with full right and authority to Lease and convey the surface estate and water withdrawal rights described in this Agreement;

9.2 That the Lessor has full legal right and authority to enter into and execute this Lease;

9.3 That the Lessor is a duly organized and validly existing Kentucky corporation which has full power and authority to enter into this Lease and perform in accord with the terms of this Agreement.

10. LESSEE'S REPRESENTATIONS AND WARRANTIES. The Lessee hereby represents and warrants to the Lessor as follows:

10.1 That the Lessee has full legal right and authority to enter into and execute this Lease;

10.2 That the Lessee is a duly organized and validly existing Kentucky limited liability company which has full power and authority to enter into this Lease and perform hereunder.

11. ASSIGNMENT/SUBLET. The Parties agree that the Lessee may assign or sublet its right, title and interest in and to this Lease to any entity or person without the consent of the Lessor.

12. TIME IS OF THE ESSENCE TO THE PARTIES IN THIS LEASE AGREEMENT.

13. SHORT-FORM. It is further agreed by and between the Parties hereto that a memorandum of this Lease may be prepared and recorded in the Knott County, Kentucky Court Clerk's Office denoting the existence of this Agreement and the geographical boundaries of the Lease.

14. GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky.

15. ENTIRE AGREEMENT. It is expressly understood and agreed by the Parties hereto that this Lease Agreement sets forth the entire agreement, and that the Parties are not, and shall not, be bound by any stipulations, representations, agreements or promises otherwise not included in this written Lease Agreement. This Lease Agreement shall not, and may not, be modified orally and any amendment to this Lease Agreement shall be in writing and executed by the Parties to be effective.

16. NOTICES. All notices or elections provided for in this Agreement shall be in writing, and shall be deemed delivered for all purposes when deposited with the United States Postal Office and mailed by registered or certified mail, return receipt requested, to a party hereto at the address set forth below:

If to the Lessor: Appalachian Realty Company
1021 Tori Drive
Hazard, Kentucky 41701

With a Copy to: Lavina Conley
1021 Tori Drive
Hazard, Kentucky 41701

If to the Lessee:

Enviro-Power, LLC
1500 N. Big Run Road
Ashland, Kentucky 41102

With a Copy to:

Hon. Stephen C. Cawood
McBrayer, McGinnis, Leslie & Kirkland, PLLC
163 W. Short Street, Suite 300
Lexington, Kentucky 40507

IN WITNESS WHEREOF, the Parties hereby have set forth their signatures, on this the 1st day of December, 1999.

LESSOR:

APPALACHIAN REALTY COMPANY

BY: Ben M

ITS: Vice President

LESSEE:

ENVIRO-POWER, LLC

BY:

ITS: President

COMMONWEALTH OF KENTUCKY
COUNTY OF Boyd

The foregoing Lease Agreement was acknowledged before me this 1st day of December, 1999, by Bernie Mason on behalf of APPALACHIAN REALTY COMPANY, a Kentucky corporation, for and on behalf of said corporation as the Lessor.

Crystal Johnson
NOTARY PUBLIC, STATE AT LARGE, KY

My Commission Expires: 6-10-02

COMMONWEALTH OF KENTUCKY
COUNTY OF Boyd

The foregoing Lease Agreement was acknowledged before me this 1st day of December, 1999, by Harold E. Seegert on behalf of ENVIRO-POWER, LLC, a Kentucky limited liability company, for and on behalf of said limited liability company as the Lessee.

Crystal Johnson
NOTARY PUBLIC, STATE AT LARGE, KY

My Commission Expires: 6-10-02

The foregoing instrument was prepared by the undersigned:

HON. STEPHEN C. CAWOOD
McBRAYER, McGINNIS,
LESLIE & KIRKLAND, PLLC
163 West Short Street, Suite 300
Lexington, Kentucky 40507
(606) 231-8780

scc\misc\enviro power lease 0215-0

EXHIBIT "A"

PROPERTY

ASSIGNMENT OF LEASE

This Assignment of Lease (this "Assignment"), dated Jan 2, 2000, is between ENVIROPOWER, LLC, a Kentucky limited liability company ("Assignor") and KENTUCKY MOUNTAIN POWER, LLC, a Kentucky limited liability company ("Assignee").

RECITALS

A. Assignor is a party to that Lease Agreement (the "Lease Agreement"), dated December 1, 1999, between Assignor and Appalachian Realty Company, a Kentucky corporation.

B. Assignor wishes to assign, and Assignee wishes to assume, all rights and obligations under the Lease Agreement.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Assignment. Assignor hereby assigns, transfers and sets over unto Assignee all of its right, title, interest, duties and obligations in, to and under the Lease Agreement. Assignor assigns, transfers and sets over its interest without recourse, "as is," "where is" and "with all faults." Assignee agrees that assignee has inspected the property that is the subject of the Lease Agreement and understands that Assignor makes no warranty, either express or implied, concerning such property, except for representations and warranties contained in this Assignment.

2. Assumption. Assignee hereby assumes all the right, title, interest, duties and obligations of Assignor in, to and under the Lease Agreement. Assignee hereby agrees to be bound by all of the terms and conditions of the Lease Agreement and to assume all of the duties and obligations of Assignor provided in the Lease Agreement.

3. Entire Agreement. This Assignment embodies and reflects the entire agreement between Assignor and Assignee with respect to the subject matter herein. This Assignment supersedes all prior agreements and understandings between Assignor and Assignee with respect to the subject matter herein. No amendment to this Assignment shall be effective unless in writing and signed by the party against whom enforcement is sought.

4. Governing Law. This Assignment is to be governed by and construed in accordance with the laws of the Commonwealth of Kentucky.

5. Headings. The headings of this Assignment are for reference purposes only and shall not affect in any way the meaning or interpretation of this Assignment.

6. Counterparts. This Assignment may be signed in counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument. Facsimile signatures shall be valid and effective.

7. Severability. If any term, section of provision of this Assignment shall be found to be invalid or unenforceable for any reason whatsoever, such invalidity or unenforceability shall not affect the validity or enforceability of any other term, section or provision of this Assignment.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK.]

IN WITNESS WHEREOF, the parties have caused their duly authorized representatives to execute this Assignment, effective as of the date first set forth above.

ASSIGNOR:

ENVIROPOWER, LLC

By: _____

Name: ARTHUR R THOMAS

Title: VICE PRESIDENT

ASSIGNEE:

KENTUCKY MOUNTAIN POWER, LLC

By: _____

Name: HAROLD E. SERGENT

Title: President

ACKNOWLEDGMENT

Commonwealth of Kentucky)
) ss
County of Fayette)

The foregoing was acknowledged before me on January 2, 2000, by Arthur E. Thomas, as Vice President of EnviroPower, LLC, a Kentucky limited liability company, for and on behalf of said corporation.

Rhonda G. Kenney
Notary Public, State at Large

My Commission Expires: 5/7/04

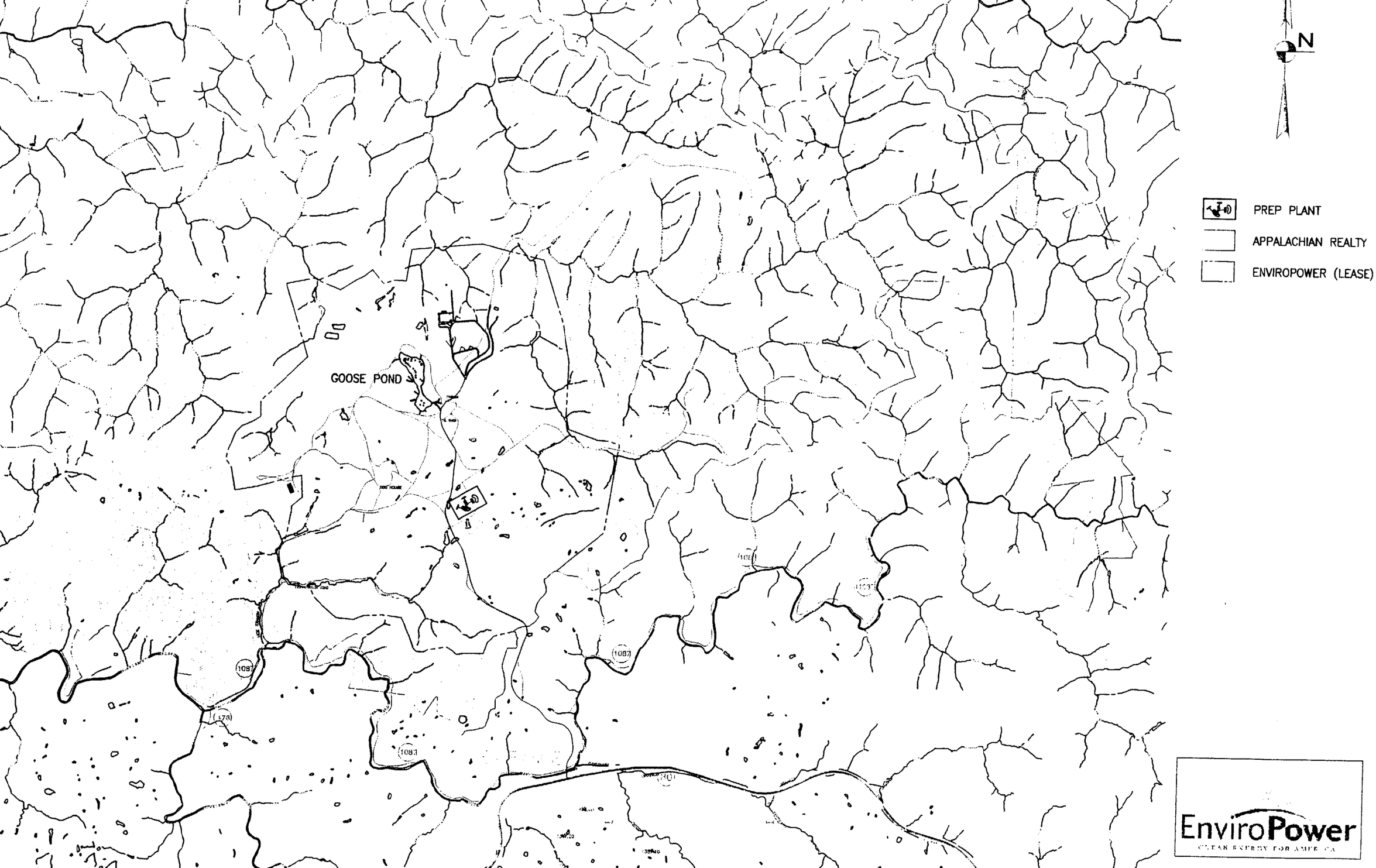
ACKNOWLEDGMENT

Commonwealth of Kentucky)
) ss
County of Fayette)

The foregoing was acknowledged before me on January 2, 2000, by Harold E. Sleeth, as President of Kentucky Mountain Power, LLC, a Kentucky limited liability company, for and on behalf of said corporation.

Rhonda G. Kenney
Notary Public, State at Large

My Commission Expires: 5/7/04


N
PREP PLANT
APPALACHIAN REALTY
ENVIROPOWER (LEASE)
GOOSE POND
EnviroPower

Plant Site Legal Description

Lying and being in Knott County, Kentucky, on the waters of Long Fork and Dan's Fork of Buckhorn Creek, a tributary of Troublesome Creek and being more particularly described as follows:

Unless stated otherwise, any monument referred to herein as a "capped iron pin" is a set ½ inch diameter rebar, eighteen inches in length, with a red plastic cap stamped PLS #3079. All bearing stated herein are referred to the NAD83 State Plane Coordinate System.

The subject property of the description below is a part of and is completely surrounded by other property owned by Grantor (DB 119, Pg 719 and DB 108, Pg 108), such deed being recorded in the records of the Knott County Court Clerk in Hindman, Kentucky. Appalachian Realty Company, by corporate name change effective as of June 30, 1998, is the successor to Cyprus Southern Realty Corporation, and Cyprus Southern Realty Corporation, by corporate name change effective as of June 11, 1987, is the successor to Southern Realty Resources, Inc., where title originates with (i) a deed from Franklin Real Estate Company dated April 14, 1977, recorded in Deed Book 119, at Page 719, and (ii) a deed from Goodloe Brothers, a partnership, dated July 29, 1977, recorded in Deed Book 108, Page 108, which deeds appear of record in the aforesaid Clerk's Office.

Beginning an at iron pin with plastic cap stamped PLS #3079 set this survey in the watershed of the Right Fork of Dan's Fork, said pin is located at Nad83 State Plane Coordinate N:2048527.45 E:2405431.80 and is referenced S 43˚36'17" E, 3131.43 feet to a PK Nail in a large rock at Nad83 State Plane Coordinate N:2048527.45 E:2405431.80, thence running down the hollow N 16˚40'09" W, 622.92 feet to a capped iron pin, thence crossing the point into the watershed of the Left Fork of Dan's Fork N 72˚41'15"E, 788.61 feet to a capped iron pin, thence running up the Left Fork of Dan's Fork S 15˚20'18"E, 1015.63 feet, thence leaving the watershed of Dan's Fork and running up the hill and across the point into the watershed of Hurricane Branch S 84˚12'55" E, 2093.22 feet to a capped iron pin, thence running around the hill S 24˚19'01"W, 1232.22 feet to a capped iron pin near the head of a small unnamed hollow in the watershed of Hurricane Branch, thence crossing the point and running S

32˚43'46" E, 573.25 feet to a capped iron pin in a small hollow in the watershed of Hurricane Branch, thence leaving the watershed of Hurricane Branch and running across the ridge S 39˚44'27" W, 2093.79 feet to a capped iron pin set on a fill area in the watershed of Long Fork, thence N 69˚03'47" W, 919.98 feet to a capped iron pin set on a fill area in the watershed of Long Fork, thence N 22˚09'06" W, 2780.34 feet to a capped iron pin, thence N 37˚42'37" E, 847.27 feet to the Point of Beginning, containing 195.05 acres more or less.

9.0 Summary of Efforts to Locate Near an Existing Generating Facility

The KMP site was chosen for its proximity to the load and the fuel source rather than existing generation. However, the plant was located at the end of a lightly loaded radial 138 KV line. This provides for full utilization of a previously under utilized utility asset.

By locating this plant near the fuel source, KMP is achieving the thirty year old regional goal of shipping “coal by wire.”

10.1 FEDERAL PERMITS

ITEM	PERMIT OR APPROVAL	RESPONSIBLE AGENCY	REGULATED ACTIVITY	PERMIT STATUS
1	Nationwide Permit	U S. Army Corps of Engineers	Placement of fill in minor wetlands, construction of intake/discharge structures, or other specified types of projects	Issued 06/21/2001
2	Determination of Obstruction Hazard	Federal Aviation Administration	Construction of tall structures	Issued 10/11/2000
3	Phase II Acid Rain Permit	U S EPA/Kentucky Division of Air Quality	Operation of power plant in compliance with Acid Rain Regulations	Issued 05/04/2001
4	Exempt Wholesale Generator (EWG) Certification	Federal Energy Regulatory Commission	Sale of wholesale electricity	Issued 05/16/2001

10.2 STATE PERMITS

ITEM	PERMIT OR APPROVAL	RESPONSIBLE AGENCY	REGULATED ACTIVITY	PERMIT STATUS
1	New Source Review (prevention of Significant Deterioration) Permit & Title V Permit	Kentucky Division of Air Quality	Construction & operation of a major source of air pollution	Issued 05/04/2001
2	National Pollutant Discharge Elimination System (NPDES) Permit	Kentucky Division of Water	Discharge of process wastewaters or cooling water into surface waters	Issued 10/17/2001
3	NPDES General Storm Water Operating Permit	Kentucky Division of Water	Discharge of storm water runoff during operation of the facility	Issued 08/03/2001
4	NPDES General Storm Water Permit for Construction (Notice of Intent)	Kentucky Division of Water	Discharge of storm water runoff during construction	Issued 10/30/2000
5	Water Withdrawal Permit	Kentucky Division of Water	Withdrawal of water for industrial use	Issued 03/30/2001
6	Wastewater Facility Construction Permit	Kentucky Division of Water	Construction of wastewater treatment facility	To be completed by U S Filter – post closing
7	Section 401 Water Quality Certification	Kentucky Division of Water	Required for issuance of U S. Army Corps of Engineers permit (Federal Permit 1)	Issued 06/21/2001
8	Mining and Reclamation Permit	Kentucky Division of Surface Mining Reclamation and Enforcement	Construction & operation of coal mine facilities – or – modification of existing permits	Pending – To be issued at financial close upon posting reclamation bond
9	Coal Combustion Waste Disposal Permit	Kentucky Division of Waste Management	Disposal of coal combustion wastes at coal mine sites – or – construction of a solid waste landfill	Issued 06/29/2001
10	Determination of Obstruction Hazard	Kentucky Airport Zoning Commission	Construction of tall structures	Issued 01/11/2001

10.3 LOCAL PERMITS

ITEM	PERMIT OR APPROVAL	RESPONSIBLE AGENCY	REGULATED ACTIVITY	PERMIT STATUS
	No local permits needed			

Kentucky Mountain POWER
NEW ENERGY FOR EASTERN KENTUCKY

May 31, 2002

Mr James E. Bickford
Secretary
Natural Resources and Environmental
Protection Cabinet
Frankfort, Kentucky 40601

Re: Kentucky State Board on Electric Generation
and Transmission Siting
Case No. 2002-00149
Kentucky Mountain Power, LLC

Dear General Bickford.

Attached, as set forth in SB 257, is the Cumulative Environmental Assessment for the proposed Kentucky Mountain Power coal fired power plant in Knott County Your Cabinet has already issued all of the appropriate permits for this project.

Please review and provide your evaluation to the Kentucky State Board on Electric Generation and Transmission Siting. If you have any question, please contact Randy Bird at (606) 434-0329.

Sincerely,

Frank L. Rotondi
President and CEO

Attachment
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2810 Lexington Financial Center • Lexington, KY 40507
Phone: (859) 389-8070 • Fax: (859) 389-9980