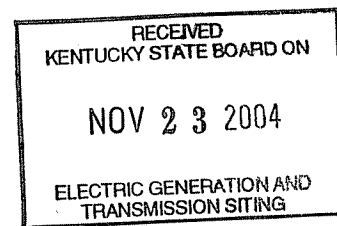


Visual Impact Analysis for Proposed Electric Transmission Line
Case No. 2004-00351
City of Melbourne
Campbell County, Kentucky

Submitted to:
Commonwealth of Kentucky
Public Services Commission
Kentucky State Board on Electric Generation and Transmission Siting
211 Sower Boulevard
P.O. Box 615
Frankfort, Kentucky 40602-0615

Submitted by:
MACTEC Engineering and Consulting, Inc
13425 Eastpoint Centre Drive, Suite 122
Louisville, Kentucky 40223
(502) 253-2500
(502) 253-2501
Contact: Nicholas Schmitt P. E.



November 19, 2004
Lead Agency: Kentucky State Board of Electric Generation and Transmission Siting

ABSTRACT

Kentucky State Board on Electric Generation and Transmission Board requested a review of visual impacts of the 4.9 miles of electric transmission line proposed in the application of Cincinnati Gas & Electric Company, Case No. 2004-00351. The project corridor parallels an existing overhead power line corridor from the Ohio River to the Silver Grove Substation in Melbourne, Kentucky. This assessment provides the requirements in KRS 278.714 (2)(b)-(c) and uses the Council of Environmental Quality guidelines on preparing visual impact assessments.

MACTEC Engineering and Consulting, Inc conducted a site visit on October 29, 2004, of the project area. The principal investigator was accompanied by personnel from the Kentucky State Board on Electric Generation and Transmission Board and from Cinergy, Inc.

No adverse visual impact is anticipated because of the proposed electrical transmission line project. The proposed project does not change the existing physical features that are characteristic of the area or introduce any uncharacteristic development. The aesthetic features of hilly pastures and woods remain visible and dominant in the public views of the area.

TABLE OF CONTENTS

ABSTRACT.....	2
TABLE OF CONTENTS.....	3
LIST OF FIGURES	3
INTRODUCTION	4
VISUAL IMPACT METHODOLOGY.....	4
PROJECT AND LANDSCAPE DESCRIPTION	5
FIELD INVESTIGATION	6
CONCLUSIONS AND RECOMMENDATIONS	8
ATTACHMENT 1 – FIGURES	A-1

LIST OF FIGURES

Map 1 Proposed Project with Photograph Key.....	A-2
Photograph 1 View of Tower 20 Close to the Ohio River.....	A-3
Photograph 2 View of Existing Towers from intersection of Mary Inglis Highway (State Highway 8) and Ten Mile Road	A-4
Photograph 3 View Westward from Tower 11 Looking Toward Tower 10, 9 and 8.....	A-5
Photograph 4 Typical Wood Pole and Transmission Lines.....	A-6
Photograph 5 View Looking West from Farm on Dead End Road	A-7
Photograph 6 View Looking East from Farm on Dead End Road	A-8
Photograph 7 View Westward from Subdivision on Lakewood Drive of Cleared Easement.....	A-9
Photograph 8 View Eastward from the Silver Grove Substation	A-10

INTRODUCTION

The purpose of this report is to provide visual impact analysis to aid the Kentucky State Board of Electric Generation and Transmission Siting to make a determination of any significant adverse scenic impacts that could occur from the proposed action. The proposed action is the construction of a new 138 kV electric transmission line from the Silver Grove Substation to the Ohio River, approximately 4.9 miles. This report provides:

- Brief background on the methodology used to make an assessment of the impacts, and a
- Description of the scenic area in the project area and the magnitude of any impacts from the field investigation.

VISUAL IMPACT METHODOLOGY

Before addressing the landscape and project description it is important to review the concepts and terminology that comprise a visual resource analysis. The basic concepts and procedures of visual resource analysis for government agencies were established in the 1970s, with ongoing updates and revisions.¹ Each procedure describes the various features of the existing visual setting and the project's proposed visual characteristics. Viewsheds to and from the proposed action are identified and key observation points are chosen to assess the potential visual impacts.

Factors normally included in a visual resource analysis are visual quality of the area, viewer sensitivity by the users and visitors to the project area, landscape visibility, and viewer exposure to the site. Visual impact susceptibility is a concluding assessment on the probability that a landscape will show a noticeable visual impact from the project implementation. Visual impact susceptibility is derived from comparing existing conditions of visual quality, viewer sensitivity, landscape visibility and viewer exposure.

An adverse visual impact occurs within a public view when;

- An action changes existing features of the physical environment so they no longer appear to be characteristic of the locality,
- An action introduces new features to the physical environment that are uncharacteristic of the region or locale, or

¹ U.S. Forest Service. *Landscape Aesthetics: A Handbook for Scenery Management, Agriculture Handbook Number 701*. 1995; U.S. Bureau of Land Management. *Visual Resource Inventory*. BLM Handbook H- 8410-1; and Bureau of Land Management. *Visual Resource Contrast Rating BLM Handbook H- 8431-1*; U.S. Federal Highway Administration. n/d. *Visual Impact Assessment for Highway Projects*. Washington, D.C.; American Society of Landscape Architects.

- Aesthetic features of the landscape become less visible or blocked from view or are removed. Introduced changes that seem uncharacteristic are those that appear out of place, discordant or distracting.

Further, the degree of visual impact is a function of project features, context and viewing conditions, (e.g., angle of view, distance and primary viewing directions), visual contrast, project dominance, and view impairment.

A general model for this type of Visual Impact Assessment is outlined below:

- Describe the landscape and the project in the corridor area
- Assess the viewer characteristics
- Establish key observation points
- Assess impacts of the proposed action in terms of visual contrast, project dominance, and view impairment on the scenic assets of the project area.

In summary, a visual impact discussion should explain the character of the visual environment and the visual impacts arising from the project while being commensurate in magnitude with the potential for visual impacts from the proposed project.

PROJECT AND LANDSCAPE DESCRIPTION

The project corridor is located in Campbell County in the City of Melbourne, Kentucky. The proposed new 138-kV line is approximately 6.5 miles long from the Beckjord Generation Station in Clermont County, Ohio. The portion of the line assessed in this application is from the Silver Grove Substation located off of State Road 547 to the Ohio River, extending approximately 4.9 miles. See Map 1, Project Area and Photo Key, in Attachment 1.

Beginning at the Ohio River running westward for 2.67 miles to Tower 11, the new line will be placed on the existing tower structures. The existing structures carry 345-kV lines. See Photographs 1 and 2 for pictures of the structures near the Ohio River. Tower 11 is located near the intersection of Nine Mile and Gunkel Roads.

From Tower 11 to the Silver Grove Substation, the proposed new 138-kV line will be located approximately 100 feet south of the existing tower structures on single wood pole structures, with three 138-kV post insulators and static clamps. The poles will range in height from 70 to 100-feet and normally be spaced at 250 to 300 feet apart. This new line will run approximately 2.23 miles to the Silver Grove Substation from Tower 11 from the Nine Mile Road to Silver Grove Substation. The new line will require an additional 50-foot wide band be maintained (i.e., cleared and intermittently mowed) on the south side

of the existing maintained area. This new maintenance area is within the existing 300-foot easement.

The project corridor is in the Outer Bluegrass physiographic region and is characterized by steep valleys and little flat land. This type of topography is typical of the Outer Bluegrass region along the Ohio River from the Huntington, West Virginia, area to west of Louisville, Kentucky. The corridor land use is predominantly pasture, with scrub shrub species and secondary growth woods. The land uses in the area also include low density residential housing scattered around the project corridor. The closest subdivision is located on Lakewood Drive off of Eight Mile Road.

FIELD INVESTIGATIONS

On Friday October 29th, 2004, a field site visit occurred along the corridor. The reconnaissance consisted of viewing the project landscape from public roads and walking to other vantage points to develop an overall assessment of the landscape characteristics and the potential for project impacts. MACTEC's principal investigator, Virginia Hayes, was accompanied on the site visit by personnel from Kentucky Public Service Commission and Cinergy Corporation.

From the field visit, seven key observation points (KOP) were selected for two reasons:

- The locations provided a representative view of the landscape along the specific transmission line segment, and
- The view point captured the presence or absence of a typical visual impact of the project.

KOP 1 and 2 View of Existing Towers from intersection of Mary Inglis Highway (State Highway 8) and Ten Mile Road

An additional 138-kV wire will be added to existing towers numbered 20 through 11. Photographs 1 and 2, located in Attachment 1, show the existing Towers 20 and 19. Tower 19 is typical of the structures used between Towers 19 and 11. Because of its location crossing Highway 8, this portion of the corridor has more viewers than any other area of the project. However, the addition of another wire to an existing structure does not provide more visual contrast or add to the dominance of the existing structure or add view impairment. There is no additional visual impact for this area or in any of the 2.67 miles of project corridor extending to Tower 11. No adverse construction impacts or change in easement maintenance management practices are anticipated from the addition of a new wire to these existing structures.

KOP 3 View Westward from Tower 11 Looking Toward Tower 10, 9 and 8

Photograph 3 shows Towers 10 through 8 in the center of the photograph. The Tower on the left is from another transmission corridor, and its wires also connect with Tower 11 and continue to the Ohio River. In this view, the new line will be installed on 70- to 100-foot wood poles spaced 250 to 350 feet apart. The poles will be located 100 feet to the south or to the left of the center towers, as shown in Photograph 3, Appendix 1. See also Photograph 4 that shows wood poles typical of what is being proposed in this area of the easement. An additional 50-foot-wide band within the easement will be maintained. In this view, the single poles will appear to approximately reach the height of the first cross arm of the Tower structures. Initially, the clearing will add visual contrast to the view, but the CG&E maintenance practices of mowing infrequently encourages emergent and scrub/shrub vegetation to grow. The visual contrast will thus be reduced. The proposed action will not change or impair the current view. Construction impacts will be temporary. Views of the transmission lines and tower are minimal in this area.

KOP 5 and 6 Views Looking West and East from Farm on Dead End Road

Photograph 5 shows a pasture area located off Dead End Road. In this area, the new line on wood poles is proposed. A typical pole would be located slightly to the right of the tower seen in this picture and at a lower elevation. The 70- to 100-foot pole would be approximately the same height as the first cross-arm. No additional clearing would be required in this area, and the construction impacts would be minimal and temporary.

Photograph 6 shows a view looking east back toward Tower 11. Additional clearing of 50 feet would be involved in this location. The change in visual contrast would be the same as mentioned previously regarding Photograph 3; however, with time the contrast would lessen because of the CG&E maintenance practices and the growth of the scrub shrub vegetation and infrequent mowing practices. The addition of the single wood poles in this area would not change the visual contrast of the view or the dominance of the project.

KOP 7 View Westward from Subdivision on Lakewood Drive of Cleared Easement

Photograph 7 shows the cleared easement looking west from the subdivision. Houses are located just to the right, outside the view of this photograph. Tower 3 is in the view close to the top of the ridge. A series of four poles is proposed to be located in a line 100 feet to the left of the tower and the wires shown in this picture. Some maintenance mowing and clearing has occurred within the maintained portion of this easement. Additional clearing may occur to the left side of this picture; however, the edge of vegetation will remain similar because the type and mass of vegetation is fairly consistent in this area. The visual contrast will not increase with the addition of the poles in this area but the dominance of the transmission wires and tower will increase in this view. The view however will not

substantially change. Allowing the relatively low growing upright junipers to grow on the clearing edge, as shown on the right in this picture, will lessen the potential impact to the view.

KOP #8 View Eastward from the Silver Grove Substation

Photograph 8 shows the view from the Silver Grove Substation eastward. Tower 31 is seen past the fence, and Tower 2 is shown on the hill in the cleared area of the picture. Again, a series of poles with the 138-kV wire is proposed to be installed on the right hand side of this picture. Clearing for maintenance has occurred in this area, and the visual contrast of the poles would be negated because of the backdrop of tall trees behind the poles. The project dominance would not increase because of this installation, and the view would not be impaired.

SUMMARY AND CONCLUSIONS

No adverse visual impact is anticipated because of the proposed electrical transmission line project. The proposed project does not change the existing physical features characteristic of the area or introduce any uncharacteristic development. The aesthetic features of hilly pastures and woods remain visible and dominant in the public views of the area.

ATTACHMENT 1
MAP AND FIGURES

MAP 1

PROPOSED PROJECT WITH PHOTOGRAPH KEY

NOT SCANNED



Photograph 1 View of Tower 20 Close to the Ohio River

View from Mary Inglis Highway looking toward Tower 20 and the Ohio River



**Photograph 2 View of Existing Towers From Intersection of Mary Inglis Highway
(State Highway 8) and Ten Mile Road**
Looking Northwest Toward Tower 19



Photograph 3 View Westward from Tower 11 Looking Toward Towers 10, 9 and 8.
Tower on left is from another corridor. The lines run to Tower 11 and toward the Ohio River.



Photograph 4 Typical Wooden Pole and Transmission Lines



Photograph 5 View Looking West from Farm on Dead End Road.



Photograph 6 View Looking East from Farm on Dead End Road

Taken at Tower 7 and 8. Local distribution lines are shown crossing under the transmission lines. This picture is in the same location as Photograph 5.



**Photograph 7 View Westward from Subdivision on Lakewood Drive
of Cleared Easement**

A subdivision home is located immediately to the right of this picture.



Photograph 8 View from Silver Grove Substation Looking Toward Tower 1

New poles are proposed to be located 100 feet to the south of the existing 345-kV lines in front of the tree line shown on the right in this photo.