Appendix 4

Technical Memorandum:
Additional Visual Assessment of Aboveground Electric Transmission Line
February 5, 2010

Ms. Barbara Parsons, Chairperson
Planning Board
Town of Wawayanda
80 Ridgebury Hill Road
PO Box 106
Slate Hill, NY 10973

RE: SEQRA. Visual Impact Analysis
Aboveground Electric Transmission Line
CPV Valley Energy Center
Town of Wawayanda
Orange County, New York

Dear Ms. Parsons:

My office has reviewed the text and figures of the technical memorandum entitled: *CPV Valley Energy Center Additional Visual Impact Analysis Aboveground Electric Transmission Line*, and dated February 2, 2010. I find the text complete and the figures acceptable for public review and comment.

Should you have any questions please contact my office at 646-652-6498.

Sincerely,

[Signature]

George M. Janes, AICP
Principal

cc: P. Hines, McGoey, Hauser & Edsall Consulting Engineers, PC
M. Bruno and S. Remillard, Competitive Power Ventures, Inc.
G. Harkness, TRC Companies, Inc.
TECHNICAL MEMORANDUM

CPV VALLEY ENERGY CENTER

Additional Visual Impact Analysis
Aboveground Electric Transmission Line

February 4, 2010
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A – Section 5.0 of DEIS “Visual Resources and Aesthetics”
1.0 INTRODUCTION

This memorandum is intended to provide its reader with incremental information regarding the potential visual impacts of the aboveground electric transmission line proposed to connect the CPV Valley Energy Center (Project) to the New York Power Authority’s (NYPA) bulk power transmission system. Significant analysis of the Project has been performed to date and was included in the Draft Environmental Impact Statement (DEIS) submitted to the lead agency. The DEIS was deemed complete by the lead agency under the New York State Environmental Quality Review Act (SEQRA) and released for public review and comment. During the course of the comment period, it was identified that additional analyses specific to the transmission line would be a beneficial addition to the overall visual assessment of the Project.

To that end, additional visual analyses were performed and the results are provided herein. A detailed outline of the analytical approach and process has also been provided herein to assist the reader in review of the enclosed materials. Please note that the analysis presented in this technical memorandum complements the extensive visual assessment that was provided in the DEIS. To further assist the reader, a complete copy of the visual assessment section of the DEIS is included as Attachment A of this memorandum for reference. Also, the assessment process, procedures, and viewpoints identified for analysis were done in close consultation with the Town of Wawayanda Planning Board’s visual consultant, Mr. George M. Janes of George M. Janes & Associates.

1.1 Project Background and Level of Review

The proposed Project would be located on an approximate 30 acre portion of 122 acre site parcel of open land in the northeast portion of the Town of Wawayanda. The 122 acre site parcel is bounded by Interstate-84 (I-84) to the south, Route 17M on the east, and Route 6 to the north and west. The Project is proposed to consist of a combined-cycle power generation facility capable of producing a peak of approximately 630 megawatts (MW) of electricity. The Project will interconnect with the NYPA’s 345 kilovolt (kV) bulk transmission system which is located less than 1 mile north of the Project site.

In accordance with the SEQRA, a DEIS was prepared for the Project. The Town of Wawayanda Planning Board in its capacity as Lead Agency for the SEQRA review on February 23, 2009 determined that the DEIS was complete in its scope and content for the purpose of commencing public review. Section 5.0 of the DEIS, “Visual Resources and Aesthetics,” included a visual impact assessment of the Project in accordance with the approved Scoping Document issued by the Planning Board on October 8, 2008. During the course of the DEIS public comment period, which closed on May 14, 2009, review comments were received regarding the potential visual impact of the Project’s Facility and overhead electric transmission line. This technical memorandum details the additional visual impact analyses conducted to respond to the visual impact review comments received on the Project’s DEIS from the Town of Wawayanda Planning Board.
Board’s visual consultant George M. Janes & Associates. Attachment B to this memorandum contains the April 22, 2009 DEIS review comment correspondence provided by Mr. Janes. The analyses prepared in response to the review comments were closely coordinated with Mr. Janes.

1.2 DEIS Visual Impact Review Comments

Pursuant to the Scoping Document approved by the Town of Wawayanda Planning Board on October 8, 2008, a visual impact assessment was prepared and documented in the DEIS. The viewshed mapping and photosimulations that were included in the DEIS focused on the electric generation buildings and the two 275 foot high exhaust stacks that represent the main visual elements of the Project. The DEIS visual analyses described the aboveground electric transmission line extending from the Project’s on-site substation to a point on the western edge of the site along Route 17M where the transmission line will transition to an underground configuration and its potential visibility, but did not evaluate its potential impacts on visual resources. This technical memorandum specifically addresses comments related to potential visual impacts of the overhead portion of transmission line and its potential impacts on visual resources.

2.0 ABOVEGROUND ELECTRIC TRANSMISSION LINE EVALUATION PROCESS

2.1 Overview of the Visual Assessment Process

In response to comments received on the DEIS, further assessment of visual impacts associated with the aboveground portion of the electric transmission line was conducted. The process of assessing these potential impacts included a series of steps based upon the steps described in the DEIS Scoping Document.

The first step of the additional evaluation was to prepare a map of the area within a 5-mile radius of the proposed Facility depicting the areas within which the Facility and aboveground transmission line could be potentially visible. This was done by analyzing the location and height of the transmission line in relationship to the topography and surrounding vegetation using Geographic Information System (GIS) software. This process is called a viewshed analysis. Viewshed is a term used to represent the area where a structure can potentially be seen. Since there was significant analysis conducted previously, it was important to identify any new or “incremental” areas that required evaluation as a result of the aboveground transmission line. This process is described in greater detail in Section 2.3 below.

The second step of the analysis was to determine the potential impacts on resources within the incremental viewshed area that are considered significant from a national, State, or local perspective. In addition, the viewpoints identified by the Planning Board during the DEIS development were reevaluated.
The third step of this effort was the development of additional photosimulations of the Project, including the aboveground electric transmission line. The locations for the photosimulations were selected in consultation with the Planning Board’s consultant. Section 2.5 provides more detail and background on the process.

The fourth step in the process was to use the viewshed mapping and photosimulations as evidence to determine the Project’s impacts on visual resources, and to determine overall conclusions. Conclusions are provided in Section 4.0 below.

2.2 Transmission Line Description

To assist the reader in the review of the information contained in this memorandum and gain a perspective of the transmission line, a brief description of the transmission line is provided below.

The aboveground portion of the proposed CPV Valley Energy Center transmission line interconnect with the NYPA Marcy South lines will consist of five steel transmission monopoles spaced between 380 to 720 feet apart, within a 150 foot wide right-of-way (130 foot wide clearing). The aboveground alignment will basically parallel the arc created by I-84 and its westbound entrance ramp where it will terminate just to the north and west of the I-84 Exit 3 interchange. At the fifth monopole, the electrical line will transition to an underground duct bank configuration routing under the Route 17M easterly right-of-way where it will connect to NYPA’s Marcy South 345 kV bulk electric transmission system. The first pole beginning at the Facility substation is proposed to be approximately 110 feet high. Heading in an easterly direction from the substation, the approximate heights of the monopoles are as follows: Pole 2, 115 feet; Pole 3, 110 feet; Pole 4, 120 feet; and Pole 5 a riser monopole structure, will be 130 feet high. Figure 2-1 provides an aerial overview of the routing and approximate location of the poles.

The conductor (electrical wires) spanning the pole structures will be approximately 2-3 inches in diameter and a neutral color (light gray) to minimize visibility.

2.3 Viewshed Analysis

A map of the areas within a 5-mile radius of the Project from which the transmission line may be visible was prepared using a process called viewshed mapping, the technique approved per the DEIS Scoping Document. In this process, the location and height of the transmission line in relationship to the surrounding topography and vegetation are analyzed using GIS software to produce a map showing the areas where the Project component could potentially be visible. Since there was significant analysis conducted previously in the DEIS, it was important to identify any new or “incremental” areas that required evaluation as a result of the transmission line.

The attached viewshed maps (Figures 2-2 and 2-3) are derived from Figure 5-1B of the DEIS, which analyzed the potential visual impacts of the Facility, based on the two, 275 feet high stacks. Figures 2-2 and 2-3 are based not only on the two 275 feet high stacks,
but also the height of the electrical transmission line and right-of-way clearing. Figure 2-2 was created to show the potential incremental viewshed of the Facility stacks and aboveground electrical transmission line based on the effects of topography and vegetation cover as represented by the National Land Cover Dataset (NLCD) of 2001. Figure 2-3 was created to show the potential viewshed of the Facility stacks and aboveground electrical transmission line based on topography only. The viewshed mapping methodology and software is discussed in Section 5.4.1.1 (Viewshed Analysis Methodology of the DEIS on pages 5-8 and 5-9, which is included as Attachment A of this memorandum). It is important to note that this analysis is conservative, as it omits any structures (e.g., buildings, fences, etc.) that could further obscure visibility of the Facility’s structures. The viewshed maps are color coded to demonstrate the incremental viewshed area (shaded in yellow) resulting from the inclusion of the overhead electric transmission line.

As shown on Figures 2-2 and 2-3, there is little area that will have visibility to the overhead transmission wires that do not already have visibility to the main facility (5.5% of total viewshed area for Figure 2-2 and 1.6% of total viewshed area for Figure 2-3).

2.4 Assessment of Impact on Important Visual Resources

The original Visual Impact Analysis included identification of visual resources considered to be of national, State, or local importance. Those resources were identified in Figure 5-1A of the DEIS, and area also shown on Figure 2-2 of this memorandum. As part of the additional viewshed mapping effort, TRC assessed whether the transmission line or supporting poles would be potentially visible from any of those resources.

The viewshed mapping shows two of the viewpoints identified by the Planning Board, 349 Greeves Road (PB2) and Sutton Hills Apartments (PB3), located within/at the edge of the incremental viewshed area1; however, further computer simulation analysis has demonstrated that due to distance, topography, and vegetation the aboveground electric transmission line are not visible from these viewpoints. There are no other visual resources located within the incremental viewshed area.

2.5 Development of Photosimulations

After consultation with the Planning Board’s consultant, three of the viewpoints analyzed in the DEIS Visual Impact Analysis were selected for re-analysis with inclusion of the transmission line. Viewpoints located at Bates Gates Road (VP5), Kirbytown Road (VP6), and Balchem Corp. (VP9) were chosen for further analysis because of their proximity to the site and potential views of the aboveground electric transmission line. These viewpoints provide representative views of the aboveground electric transmission line from the north, south, and east.

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1 Note that the viewshed maps are designed to be printed 36” x 36”. It is possible that some of the shaded area can be skewed when scaling the images down to 11” x 17”. Please refer to the full size images.
Table 1 identifies the viewpoint locations used in assessing the potential visual impact of the Project’s electric transmission line.

<table>
<thead>
<tr>
<th>Location</th>
<th>View Relative to Site</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I-84/Route 17M Exit Ramp</td>
<td>Near-field from east of site</td>
<td>New location, not included in DEIS</td>
</tr>
<tr>
<td>2 I-84 eastbound just west of the site</td>
<td>Near-field from west of site</td>
<td>New location, not included in DEIS</td>
</tr>
<tr>
<td>3 Horizons at Wawayanda</td>
<td>Near-field from north of site</td>
<td>New location, not included in DEIS</td>
</tr>
<tr>
<td>4 Bates Gates Road</td>
<td>Mid-field from south of site</td>
<td>Location included in DEIS (Viewpoint 5)</td>
</tr>
<tr>
<td>5 129 Kirbytown Road Residence Backyard</td>
<td>Mid-field from northwest of site</td>
<td>Location included in DEIS (Viewpoint 6)</td>
</tr>
<tr>
<td>6 Balchem Corporation</td>
<td>Mid-field from east of site</td>
<td>Location included in DEIS (Viewpoint 9)</td>
</tr>
</tbody>
</table>

As recommended by the Planning Board’s consultant, photographs were taken to capture a panoramic view of the aboveground electric transmission line and Facility from two locations along I-84. The entrance ramp to westbound I-84 at Route 17M was chosen as the best location to capture a panoramic view of the aboveground electric transmission line. A second photograph was taken on I-84 eastbound west of the site. Photographs from behind the Horizons at Wawayanda workforce housing complex were also taken to provide a representative view of the aboveground electric transmission line from the location of a playground area and picnic tables.

The photographs were taken on October 1, 2009, during leaf-on conditions as coordinated with the Planning Board’s visual consultant. Figure 2-1 shows the locations of where the photographs were taken. Figure 2-1 also identifies the locations included in the DEIS that were reevaluated.

The panoramic photosimulations were produced using 3DS Max 9 three dimensional software. The photographs taken in the field were obtained using the same full frame Canon 5D camera with 50mm lens, as the non-panoramic simulations. To obtain a panoramic view, individual 50mm photographs were stitched together into a single image to create a view that has a wider field of view than a single 50mm photograph. The panoramic images allow more of the Project to be shown in a single frame, and are explicitly permitted in the DEIS Scoping Document if such photographs better disclose the Project’s impact on visual resources. The individual photographs were started from the left and panned to the right with a 30% overlap between each adjacent photograph. Each complete panoramic view consists of 3 to 8 separate photographs which were dependent on the angle to the subject. To obtain the complete panoramic photosimulation, each photograph comprising the panoramic view was rendered separately. After all renders were complete they were subsequently stitched together.
using Hugin stitching software Version 7. Panoramic stitching, by definition, introduces some distortion to the photographs so that they fit together as seamlessly as possible.

3.0 ANALYSIS OF PHOTOSIMULATIONS

3.1 Modified Photosimulations of DEIS Viewpoints

**DEIS Viewpoint 5: Bates Gates Road**

See Figure 3-1A for the existing conditions photograph and Figure 3-1B for a photosimulation from this viewpoint.

This view is seen for short periods of time by those driving along Bates Gates Road. This viewpoint is approximately 0.6 miles southeast from the proposed Facility. This section of Bates Gates Road can be characterized as rural. Residences in greater density within more wooded areas are located just east of the photo location. The DEIS described the impacts of the Facility at this viewpoint as follows:

*The photosimulation shows that the facility will be clearly visible from the viewpoint. The Facility represents a major new form in the viewshed and is at a scale that substantially contrasts existing elements of the view. While the facility structure remains lower than the height of the distant hills, the stacks break the established ridgeline, which is in contrast with the existing horizontal line of the view. The color of the facility is designed to minimize contrast, though this view shows that there are substantial unmitigated visual impacts from this viewpoint that are attributable to the size and nature of the proposed facility that cannot be mitigated through landscaping.*

The modified version of this simulation shows that the aboveground electric transmission line is visible as it enters the right-of-way heading west, and there is also a view of the upper portion of the first pole structure, in addition to a view of the Facility. The other pole structures are outside the frame of the photograph and it is not clear if all of them would be visible from this location. Nevertheless, the incremental visual impacts associated with the aboveground electric transmission line are negligible, as the Facility itself dominates this viewpoint and already creates substantial visual impacts. Further, the pole structure and transmission line do not break the established ridgeline and their distance from the viewpoint reduces their visibility and visual impact.

**DEIS Viewpoint 6: 129 Kirbytown Road Backyard**

See Figure 3-2A for the existing conditions photograph and Figure 3-2B for a photosimulation from this viewpoint.

The area surrounding Viewpoint 6 is residential with most parcels consisting of 1.0 to 2.5 acre lots. Most of Kirbytown Road itself would not have views of the Facility during leaf-on conditions as it would be blocked by intervening trees. The Viewpoint 6 photograph was taken at a location in the backyard of one of the residences on Kirbytown Road that would have the most unobstructed view of the Project site possible from that location.
area. This location is approximately 0.5 miles northwest of the site, but would not be seen by large numbers of people as it would only be visible to those living in homes at this location, or very close to where the photograph was taken. For the general public, views of the Facility along Kirbytown Road will be limited. The DEIS described the impacts of the Facility at this viewpoint as follows:

The photosimulation shows that most of the Facility building and stacks will be visible from this viewpoint, which transforms the view from one that can be characterized as an open view of fields, brush and forests into one that features a large industrial complex. From this distance the scale of the Facility is substantially larger than any existing element of the view and the stacks break the established ridgeline, which is in contrast with the existing horizontal line of the view. While the color of the Facility is designed to minimize contrast, this view shows that there are significant visual impacts from this viewpoint that cannot be obscured with mitigation, and are attributable to the size and nature of the proposed Facility.

The modified version of this simulation shows that the aboveground electric transmission pole structures cannot be seen in this photosimulation. As shown in Figure 3-2B, the electric wires may be slightly visible leading from the switchyard to the first transmission pole. (In Figure 3-2C, the color of the aboveground transmission wires was changed from the planned neutral gray color to yellow so that they may be more clearly seen.) From this location the forested area through which the right-of-way is cut, is dense and provides screening to the transmission pole structures even in leaf-off conditions. While not all the transmission pole structures are in the frame of the photograph, the incremental visual impact due to the transmission pole structures and wires should be negligible, as the Facility itself dominates this viewpoint and already creates substantial visual impacts.

**DEIS Viewpoint 9: Balchem Corporation**

See Figure 3-3A for the existing conditions photograph and Figure 3-3B for a photosimulation from this viewpoint.

Balchem Corporation is located on Sunrise Park Road adjacent to Route 17M. This viewpoint is located within a commercially zoned area next to the route 17M/I-84 Exit 3 interchange. The view is from the northwestern side of the parking lot looking slightly to the southwest. This viewpoint was originally selected for the DEIS to represent a nearby open view from the east and also provides a proximal view from nearby Route 17M. Route 17M can be seen in the middle of the photograph just on the other side of the chain-link fence located at the edge of the property. The elevation drops slightly on the west side of the Route 17M highway, as noted by the position of the trees in the left portion of the photograph. The DEIS described the impacts of the Facility at this viewpoint as follows:

Route 17M and the existing overhead transmission lines dominate the southwesterly view towards the Facility site from the Balchem Corporation location. The Facility’s stacks and the uppermost portion of the Facility’s enclosed building structures will be visible. The addition of the Facility’s components to the viewshed are somewhat buffered by the
presence of Route 17M and the existing overhead transmission lines. The Facility stacks represent new vertical elements in the landscape, although the photograph shows that some vertical manmade elements already exist such as numerous telephone poles. In general, the Project’s form, line, and texture represent a change over the existing components of the landscape, which include the field in the foreground, and road and trees further away. The neutral color of the Facility helps to reduce its contrast with the color of the landscape. This view would likely be seen by those working at this industrial site and those traveling along Route 17M.

The modified version of this simulation shows that the riser pole and transmission line create a visual impact because they are clearly visible from this viewpoint. The riser pole (pole 5) in the foreground is approximately 620 feet from the viewer location, and is seen against a backdrop of sky. Other transmission poles may be visible from this location outside the left frame of the photograph, but none will be as prominent as the riser pole, which will represent a new visual element in the view from the Balchem site once constructed. The Facility’s stacks and the uppermost portion of the Facility’s enclosed building structures, which while clearly visible in the background, are not as spatially dominant in this viewpoint as the riser pole. The main Facility is located about 0.8 miles from this viewpoint.

The incremental impact of the riser pole is mitigated by the existing character of the view, which is defined, in part, by the existing electrical lines and supporting poles along Route 17M. The taller riser pole and intercepting Project transmission line are not out of character with this existing character, which mitigates the visual impact of the structure on this view.

3.2 Additional Photosimulations

To compliment the photosimulations from the DEIS that were modified to include the aboveground electric transmission line, additional photographs were taken from three different viewpoints to capture a panoramic view of the aboveground electric transmission line. Two different locations along I-84 were chosen, one is along I-84 to the west of the Facility, and the other is along the westbound entrance ramp just east of the Facility. The westbound entrance ramp was chosen as the best location to capture a view of the entire portion of the aboveground electric transmission line, and the location to the west of the Facility on I-84 was chosen as the best location to capture both the Facility and the aboveground electric transmission line. The third location chosen was a viewpoint from behind the Horizons at Wawayanda workforce housing complex, adjacent to the playground and picnic area. A description of the photosimulations is provided below.

Viewpoint 13A – Interstate 84 at the 17M Entrance Ramp

See Figure 3-4A for the existing conditions panoramic photograph and Figure 3-4B for a photosimulation from this viewpoint.
The existing view towards the site from the westbound I-84 entrance ramp can be characterized as open and rural. Fields with scattered clusters of trees dominate the view, with a forested area to the left. Glimpses of the back side of Horizons at Wawayanda can be seen in the background on the right of the photograph. While not a viewpoint of exceptional quality, this view is widely experienced as it is seen by all vehicles using the entrance ramp. It is not a viewpoint of national or state significance but was selected because the Planning Board requested that views to the project from I-84 be analyzed.

The photosimulation from this location is a panoramic view of the Project composed to show the entire Project within a single frame. As shown in the photosimulation, the upper portion of the Facility stacks can be seen above the tree line in the background of the photograph. Poles 2, 3, 4, and the riser pole (pole 5) are visible from this location. Pole 2 is furthest from the viewer, approximately 0.3 miles from the vantage point location; pole 3 is 0.2 miles away; poles 4 and 5 are approximately 490 and 480 feet away, respectively.

In the near-field of the photosimulation, both the riser pole and Pole 4 are prominent and unscreened. They are larger in scale than other elements in the view and they break the established ridgeline. The lower portions of Poles 2 and 3 are partially screened by vegetation and their scale is mitigated by their distance from the viewpoint. Nevertheless, these poles also break the established ridgeline and together with the other visible poles support electrical transmission wires that are visually prominent against a backdrop of sky. The prominence of the transmission pole structures and wires and their contrast with the existing elements in the view together create a visual impact that is not easily mitigatable by screening vegetation or other typical mitigation measures. The top portions of the Facility stacks are visible in the distance and the Facility itself has only a small impact on the quality of this view.

The visual impact of the transmission pole structures and wires is mitigated by the typical duration of the view and the purpose most people have for traveling to this view. Most viewers will only experience this view for a short period when entering the highway. Further, this is not a destination view that is sought out. Rather, people travel to this view to enter the Interstate and typically only experience the view incidentally.

**Viewpoint 13B – Interstate 84, Eastbound**

See Figure 3-5A for the existing conditions panoramic photograph and Figure 3-5B for the photosimulation from this viewpoint.

The existing view towards the site from I-84 eastbound, west of the Facility is one of open fields mixed with a forested area and scattered clusters of trees lining the highway. While partially screened by vegetation, the Facility introduces a spatially dominant industrial structure into a rural side-of-the-road view that will redefine the nature of this view. The Facility will create visual impacts due to its use, scale, and spatial dominance from this viewpoint similar to those disclosed in Viewpoint 13 from the DEIS. The aboveground electric transmission lines can be seen as they leave the Facility, and enter the right-of-way heading east. Poles 1 and 2 are visible from this
location, with Pole 2 furthest from the viewer. The visual impact of the electrical transmission lines is small largely because the view is dominated by the scale of the Facility. In addition, the view of the transmission poles and right-of-way is foreshortened from this viewpoint, masking its overall length.

The impact on this viewpoint shown by the photosimulation is mitigated due to the brief period the view will be experienced due to the speed of traffic traveling along I-84 and the resulting brief opportunity to view the Facility.

The electrical transmission wires and Poles 1 and 2 fade into the darker image created by the wooded areas in the background of the photograph. As I-84 eastbound motorists progress by the site, they will have a view of the transmission Pole structures which parallel I-84. This view will be fleeting in duration due to the speed of vehicles on I-84.

**Viewpoint 10A – Horizons at Wawayanda - Playground Area Behind Buildings**

See Figure 3-6A for the existing conditions panoramic photograph and Figure 3-6B for a photosimulation from this viewpoint.

The vantage point of this photograph is at an outdoor playground/picnic area located behind Horizons at Wawayanda, south of the building complexes and facing I-84. The general area has a large stretch of grassy land from the back of the apartments down to where the edge of the property meets a forested area. Closer to the apartment complexes there are several picnic tables and permanently fixed outdoor grills, as well as a play area for young children. To the left of the photograph, a small part of Route 17M and the westbound I-84 entrance ramp can be seen in the background. Between Horizons and the highway, the area is open field/meadow interspersed with trees. A wooded area is prominent in the right side of the photograph.

The transmission line runs in the section between Horizons and I-84. The photosimulation is a panoramic view showing the riser pole (pole 5) to the left, and pole number 4 to the right, as well as the electric transmission wires. Pole 3 is within the view of the photograph, but is hidden by vegetation. The riser pole (pole 5) is approximately 554 feet from where the photograph was taken. Pole 4 is about 600 feet away. Existing trees and vegetation block the lower part of these structures. The existing forested area to the right will block poles 1, 2, and 3 and there is no view of the Facility from this location.

Both Pole 4 and the riser pole will represent visible new vertical components in this view. The poles and the transmission wires they carry break the established horizon line and are visually prominent against a backdrop of sky. They will alter the character of the view from this location, creating a new visual impact.

The impact of the two pole structures is mitigated by the limited portion of the total panoramic view that they occupy and the presence of intervening tree cover. By preserving the tree cover on the portion of the Project site between the transmission right-of-way and the Horizons complex, the visibility of the pole structures will lessen as
the vegetation continues to mature. The neutral color of the transmission lines reduces contrast with the sky and under similar atmospheric conditions lessens their visual prominence.

4.0 SUMMARY CONCLUSIONS

The additional photographic simulations prepared for the CPV Valley Energy Project provide insight into the extent and nature of the potential visual impacts associated with the transmission pole structures and electrical wires comprising the overhead segment of the transmission interconnect to the NYPA Marcy South system. For the near-field viewpoint locations represented by Balchem Corporation, the I-84 westbound entrance ramp, and the Horizons at Wawayanda complex, a number of the pole structures will represent new vertical-oriented visual elements in the viewshed that have visual impacts on these viewpoints. The existing quality of the views on which the poles have the largest impacts is not high, and the view will be often fleetingly experienced, thereby mitigating the impacts.

For near-field viewshed receptor locations, the neutral color (light gray) and relatively small diameter (2 to 3 inches) of the conductor wires reduces their prominence.

The photosimulations for the mid-field receptor locations represented by Kirbytown Road, Bates Gates Road and I-84 eastbound approaching the Facility site indicate that the pole structures would be only minimally visible and do not add significantly to the visual impacts previously disclosed.
1. This viewshed analysis was performed using a 10-meter resolution USGS digital elevation model.
2. Adjustments were made to include the presence and effects of low vegetation greater than 15 feet where noted. An average of 15 feet was assigned for the tree height.
3. The model was developed with the assumption that a stack or transmission structure is not visible if standing amongst trees in a forested area.
4. These final results identify those areas that may potentially see all or some part of a stack or transmission structure, and in some cases may only include the upper portion. Care needs to be taken at greater distances. This model presents a clear viewshed area which results from incorporating both the pink and yellow areas.

Notes:
- This model was developed with the assumption that a stack or transmission structure is not visible if standing amongst trees in a forested area.
- These final results identify those areas that may potentially see all or some part of a stack or transmission structure, and in some cases may only include the upper portion. Care needs to be taken at greater distances.

The combined viewshed of the Facility stacks and aboveground electric transmission structures includes both the pink and yellow areas.

Viewshed of both the Facility's stacks (275 feet high) and the aboveground electric transmission structures that was identified in the original viewshed analysis contained in the DEIS. In addition, this area contains the right-of-way clearing on the Project site.

Incremental Viewshed. This area represents the viewshed of the aboveground electric transmission structures that does not overlap with the viewshed of the Facility stacks (the original viewshed analysis performed), and is thus the incremental viewshed area which results from incorporating the aboveground electric transmission structures and right-of-way clearing into the model.

Notes:
- This model was developed with the assumption that a stack or transmission structure is not visible if standing amongst trees in a forested area.
- These final results identify those areas that may potentially see all or some part of a stack or transmission structure, and in some cases may only include the upper portion. Care needs to be taken at greater distances. This model presents a clear viewshed area which results from incorporating both the pink and yellow areas.
1. This viewshed analysis was performed using a 10-meter resolution USGS digital elevation model.

2. Adjustments were made to include the presence and effects of tree vegetation greater than 15 feet where noted. An average of 35 feet was assigned for the tree height.

3. The model was developed with the assumption that a stack or transmission structure is not visible if standing amongst trees in a forest.

4. These final results identify those areas that may potentially have all or some part of a stack or transmission structure, and in some cases may only include the upper portion. Care needs to be taken in greater densities. This model provides a clear line of sight type of result and does not account for natural obstacles, human vision adjustments, or atmospheric haze.

The combined viewshed of the Facility stacks and aboveground electric transmission structures includes both the blue and yellow areas.

Viewshed of both the Facility's stacks (275 feet high) and the aboveground electric transmission structures that was identified in the original viewshed analysis performed, and is the incremental viewshed area which results from incorporating the aboveground electric transmission structures.

The combined viewshed of the Facility stacks and aboveground electric transmission structures includes both the blue and yellow areas.

Notes:

1. This combined analysis was performed using a 10-meter resolution USGS digital elevation model.
2. Adjustments were made to include the presence and effects of low vegetation greater than 15 feet where noted. An average of 35 feet was assigned for the tree height.
3. The model was developed with the assumption that a stack or transmission structure is not visible if standing amongst trees in a forest.
4. These final results identify those areas that may potentially have all or some part of a stack or transmission structure, and in some cases may only include the upper portion. Care needs to be taken in greater densities. This model provides a clear line of sight type of result and does not account for natural obstacles, human vision adjustments, or atmospheric haze.

Base Map: ESRI Prime Imagery Server, 2007

Wawayanda, New York

CPV VALLEY ENERGY CENTER
WARWICK, NEW YORK

VIEWSHED MAP FOR FACILITY STACKS AND TRANSMISSION LINE TOPOGRAPHY ONLY

Miles

Figure 2-3

2009

CPV VALLEY ENERGY CENTER
WARWICK, NEW YORK

VIEWSHED MAP FOR FACILITY STACKS AND TRANSMISSION LINE TOPOGRAPHY ONLY

Miles

Figure 2-3

2009

CTC

Warwick

Middletown

Hamptonburgh

Goshen

Greenville

Mount Hope

Walkill

Wawayanda

Minisink

Wawayanda

Minisink

Margaretville