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## TECHNICAL MEMORANDUM

**To:** Kevin Sheen  
Everpower Renewables

**From:** John Hecklau

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Revised November 12, 2010 and  
Revised December 1, 2010

**Reference:** Additional Visual Analysis - Allegany Wind Power Project  
EDR Project No. 06059

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### INTRODUCTION

During the course of public/agency comments on the Draft Environmental Impact Statement (DEIS) for the Allegany Wind Power Project, several comments were received requesting additional analysis of potential Project visibility and visual impact. This memo describes the methodology and results of analyses undertaken to respond to these comments, which primarily address the following three topics:

1. Potential Project Visibility and Visual Impact from Hawthorne Lane.
2. Potential Project Visibility and Visual Impact from St. Bonaventure University.
3. Potential Project Visibility and Visual Impact from Allegany State Park.

In addition, this memo includes revised figures from the original Visual Impact Assessment (VIA), and supplemental graphics to address other questions and comments regarding visual issues. These are addressed as Topic 4 in this memorandum. Please be aware that this memorandum does not constitute a comprehensive response to public/agency comments regarding Project-related visual impacts. Responses to all substantive comments received on the DEIS are included in Section 4.0 of the Final Environmental Impact Statement (FEIS) for the Project.

#### Topic 1. Potential Project Visibility and Visual Impact from Hawthorne Lane

One commenter pointed out that no photos had been taken, or simulations prepared, from Hawthorne Lane, a rural residential subdivision off of Four Mile Road in the Town of Allegany. While photos were obtained from numerous nearby public vantage points on Four Mile and Branch Roads, these views were not from a residential subdivision, and the viewpoints were all in a valley setting. Photos and simulations of the Project from higher elevation sites, similar to the views from Hawthorne Lane, were lacking in the VIA. Consequently, EDR obtained photos from seven publicly accessible viewpoints on Hawthorne Lane on September 1, 2010 (see Viewpoints 1A, 2A, 3A, 6A, 7A, 8A, and 10A in the photolog in Attachment A). EDR then selected a view from a small pull-off along the road (Viewpoint 3A) to develop a supplemental simulation of the proposed Project from this area. This view was selected because it offered a completely unobstructed view from

Hawthorne Lane toward the Project site, and thus presents potential “worst case” views of the Project from a public vantage point in this area. It is also representative of the view that may be available from the upper stories of houses on the downslope side of Hawthorn Lane, and from the yards of the houses on the upslope side of the road. This viewpoint is approximately 2.3 miles from the nearest turbine that would be visible in this view. As shown in Figure 1 in Attachment B, the existing view to the southwest from Viewpoint 3A features the rooftop of a single home and trees on a forested hill in the foreground, with layers of green forested ridges/hills across the valley in the mid-ground and background. Other than the rooftop and a distant communications tower, the view lacks man-made features and is considered to have medium to high scenic quality.

As illustrated in the simulation, included as Figure 1 in Attachment B, with the proposed Project in place, a total of eight turbines can be seen along the forested ridgetop that forms a portion of the horizon in this view. Significant portions of three of these turbines are screened by the ridge and its forest vegetation, while the remaining visible turbines are largely unscreened. All other Project turbines are fully screened by an intervening ridge that rises on the right hand side of the view. The degree of screening illustrated in this simulation (provided by mid-ground topography and forest vegetation) would be essentially the same during both leaf-on and leaf-off conditions. The same three registered landscape architects who served on the rating panel for the original VIA evaluated this simulation and noted that the turbines’ color, line, texture, and scale present moderate to appreciable contrast with the landform, vegetation, and sky in this view. The turbines also add a new man-made feature to what is currently a largely natural landscape. However, the panel also noted that the turbine’s white color minimizes contrast with the sky, they are well absorbed by the forested landscape, and their spacing reflects the rolling character of the landform. Contrast was scored as moderate (average = 2.2 on a scale from 0 to 4) and it was noted that, although the turbines are clearly noticeable, they are not perceived as a distraction and are in keeping with the existing rural character of the view.

## Topic 2. Potential Project Visibility and Visual Impact from St. Bonaventure University

Comments received from a representative of St. Bonaventure University expressed concern that the simulation from the St. Bonaventure Cemetery (Viewpoint 177) which was included in the VIA understated potential project visibility from the St. Bonaventure University campus, and requested that a simulation from Viewpoint 175 on the campus be prepared. This request was based on the fact that 1) a more open view could be available from this viewpoint, 2) this area is heavily used by students, faculty, and visitors to the University, and 3) the view to the southwest is an iconic element of the St. Bonaventure University campus.

During fieldwork conducted for the original VIA, EDR took a total of 12 photographs from Viewpoint 175. However, we did not prepare a simulation from this location because none of the three balloons that were raised at selected turbine sites were visible. This did not mean to imply that the Project would not be visible from St. Bonaventure University. In fact, there are a number of locations in the VIA where it is indicated that the Project will likely be visible from the campus (e.g., viewshed analysis, line-of-sight analysis, landscape similarity zone discussion). However at the request of the commenter, and to avoid any potential misconceptions regarding Project visibility, a supplemental

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simulation was prepared from Viewpoint 175 on the St. Bonaventure University Campus (see Figure 2 in Attachment B).

The existing view from Viewpoint 175 features level, mowed athletic fields and associated man-made features in the foreground, with layers of forested hills, in full autumn color, providing a backdrop. Existing scenic quality is considered to be medium. This viewpoint is approximately 3.5 miles from the nearest turbine that would be visible in this view.

With the proposed project in place, seven turbines appear prominently on the background ridge. As with the view from Hawthorne Lane, due to a lack of trees in the foreground, screening illustrated in this simulation will be essentially the same during both leaf-on and leaf-off conditions. The vertical line, scale, and color (dark due to backlighting) of the turbines present moderate to appreciable contrast with the landform, vegetation, and sky in this view. The turbines call attention to the background ridgeline and become a new focal point in the view. They could also present a distraction to spectators viewing athletic events at this location, but the rating panel noted that this effect is likely to be minor. The turbines are well spaced and grounded to the landform by the existing forest vegetation. They also appear compatible with the activities that will occur in this view and do not add visual clutter to the landscape. Overall visual contrast was rated as minimal to moderate (1.7 on a scale of 0 – 4), and it was noted that the turbines could actually add an element of interest to this view.

### Topic 3. Potential Project Visibility and Visual Impact From Allegany State Park

In a letter dated August 16, 2010, the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) expressed concern regarding potential Project visibility from Allegany State Park (ASP), and identified eight specific locations from which they requested photo documentation of existing views toward the Project site and the possible preparation of supplemental visual simulations. EDR had visited one of these sites (the Stone Observation Tower) and several other sites within and adjacent to ASP during fieldwork (ballooning) conducted for the original VIA (see photos from Viewpoints 89, 91, 92, 102, 117, 118, and 121 in Attachment A). This fieldwork determined that there were no open views of the Project (as determined by balloon visibility) from any of the viewpoints visited within ASP during that field exercise. However, in response to the OPRHP request, all of the viewpoints they identified in their letter of August 16, 2010 were visited during supplemental fieldwork conducted on September 1 and September 22, 2010 (see viewpoint location map and photo log for ASP in Attachment A). This fieldwork revealed that, due to dense forest cover, open views toward the Project site might only be available from Red Ridge Road, near the intersection with Road ASP2 (Viewpoint 17A) and the Summit Fire Tower on the Ridge Run Trail (Viewpoint 5A). Camera alignment at Viewpoint 17A revealed that the Project will be fully screened by foreground trees (see Figure 1 in Attachment C). However, camera alignment at Viewpoint 5A indicated that partially screened views of the Project were likely to be available from the Fire Tower (see Figure 2 in Attachment C).

The view from the Summit Fire Tower in ASP is the only open view that EDR could find that would allow partial views of the Project from the park. At this location, the viewer is at treetop level, and distant blue gray hills are visible through a broken band of foreground trees. Scenic quality is

considered medium at this viewpoint, which is approximately 9.0 miles from the nearest turbine that would be visible in this view.

As illustrated in Figure 3 in Attachment B, with the proposed Project in place, only one turbine is clearly visible along the background ridge. At this distance the turbine appears as a slender vertical line that is barely noticeable against the sky. All of the remaining turbines are fully or partially screened by the branches of the foreground trees. Although turbine visibility would increase somewhat during the leaf-off season, relatively few visitors would be utilizing the fire tower and experiencing this view during the winter. In addition, the distance of the turbines from the viewer, and the partial screening provided by the foreground tree branches during all seasons, will minimize Project visibility and visual contrast with the landscape. Although viewer sensitivity is considered to be high, evaluation by the rating panel indicated that the turbines will have essentially no effect on scenic quality or viewer enjoyment at this viewpoint. Overall Project contrast and visual impact is likely to be insignificant (0.2 on a scale of 0 – 4) at this viewpoint.

Figure 4 in Attachment B depicts the view from the Summit Fire Tower at night. The distant ridgeline (project site) is visible in the gaps between the tops of trees that occupy the foreground of the view. The night sky is clear and bright (this photograph was taken under clear conditions with a bright, full or near-full moon). An existing communication tower with two warning lights is visible on the ridgeline at the left side of the view.

With the proposed project in place, five FAA warning lights mounted on the turbine nacelles are visible in the distant background, just above and in the gaps between the tops of the trees in the foreground of the view. The lights and silhouettes of the towers are visible above the ridgeline against the clear, relatively bright sky; however, the tops of the trees in the foreground of the view partially screen the project. The lights on the turbines appear to be approximately the same height and intensity as the existing warning lights on the communication tower at the left side of the view. Two of the three rating panel members felt the Project's effect on the existing view would be minimal (overall contrast ratings of 0 and 0.3) due to the effects of tree screening and distance. However the third panel member felt that the effect could be moderate to appreciable (2.8 on a scale of 0-4) due to the intrusion of the new lights in a largely undeveloped park setting. However, the significance of this impact is affected by the type and level of use this viewpoint receives. The landscape in the nighttime view is barely visible and the significant views sought out by visitors during the nighttime are assumed to be of the night sky (i.e., star gazing). It is also likely that the fire tower receives little use at night. Because the FAA warning lights on the distant ridgeline do not create significant contrast with the views of the sky overhead, and because nighttime viewer activity at this site is assumed to be limited, the nighttime visual impact is not considered to be significant.

#### Topic 4. Other Corrections, Clarifications, and Supplemental Analyses

In response to the request of various commenters, several corrections, clarifications, and supplemental analyses regarding the VIA and potential Project visibility were prepared. These included the following:

- A meteorological (met.) tower location and design have now been proposed for the Project. The tower will be a 100 meter (328 foot) tall free-standing lattice steel structure located approximately 1,000 feet southwest of proposed turbine 5E. Review of the original and supplemental simulations prepared for the Project revealed that open views of the met. tower will only be available in the view from Viewpoint 175 on the St. Bonaventure University campus. As this simulation shows, although visible as a fine vertical line along the ridgeline, the met. tower has minimal visual impact relative to the new turbines that appear in this view (see Figure 2 in Attachment B).

The met. tower will also be visible from Viewpoints 79 and 9A, but outside the 50 mm field of view included in the simulations from these viewpoints. The met. tower is shown in the camera alignment from Viewpoint 79 included as Figure 5 in Attachment C. Consistent with the simulation from Viewpoint 175, this image suggests that the met. tower will be a relatively minor visual element of the Project in comparison to the proposed turbines.

- Review of camera alignment at Viewpoint 5 to was conducted to document which turbines were screened and which were visible from this overlook off of Route 16. This exercise confirmed that only Turbine 1E would be fully visible from this viewpoint. Turbines 2E and 3E, lying immediately to the left of Turbine 1E, may be partially visible during the leaf-off season (see Figure 3 in Attachment C).
- Camera alignments on all of the simulations were reviewed to determine at which viewpoints turbines might be visible outside the field of view of a 50 mm photo. This exercise revealed that additional turbines would only be visible at Viewpoints 39, 43, and 79. The turbines that would appear outside the 50 mm field of view were illustrated in the panoramic simulation from Viewpoint 43 (See Figure 15 of the VIA, provided in Appendix K of the DEIS). Those that would appear outside the 50 mm field of view at Viewpoints 39 and 79 are shown in the screen shots included as Figures 4 and 5 in Attachment C.
- The location of a property recently listed on the National Register of Historic Places at 520 Hoe-Sta-Geh Road in Allegany has been added to revised VIA Figure 6, included in Attachment C, and balloon locations have been added to the VIA viewpoint location map (see revised Figure 10 in Attachment C).
- In response to questions regarding the ballooning exercise and how it relates to the assessment of Project visibility, the following additional explanation is provided. As noted in the VIA, three balloons were raised to the maximum proposed turbine height. As illustrated in revised Figure 10, referenced above, these balloons were located between proposed Turbines 1E and 2E (Balloon 1) and at the approximate location of proposed Turbines 18E

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and 4W (Balloon 2 and 3, respectively). These locations were chosen because they roughly defined the geographic extent of the Project (and also had other desirable features such as existing clearings in the forest overstory that avoided the need for additional tree cutting). These locations at the north and south ends of the Project Site, and covering both the east and west ridges, approximate the geographic limits of the turbine array anticipated at the time the ballooning was performed, and in the revised layout addressed in the VIA and DEIS. As mentioned in the VIA, the balloons were meant to provide known locational and scale references for confirming Project visibility in the field and subsequent development of accurate visual simulations. They were not meant to provide a definitive assessment of the visibility of every proposed turbine. This would have required flying balloons at every proposed turbine site, which is logistically and financially impractical, and unnecessary to evaluate potential Project visibility. Balloon visibility during field review confirmed that some portion of the Project was likely to be visible from that viewpoint. Lack of balloon visibility did not mean that views of the Project would not be available (see discussion under Topic 2). However, it did suggest that significant portions of the Project were likely to be screened from such viewpoints. Photo documentation obtained at each viewpoint, along with the results of viewshed and cross section analyses, provide additional insight into potential Project visibility from any given location within the study area.

## **ATTACHMENT A**

Supplemental Viewpoint Location Maps  
and  
Photo Logs

## **ATTACHMENT B**

Supplemental Visual Simulations

## **ATTACHMENT C**

Camera Alignments and Revised VIA Figures