Wasatch Wind

April 15, 2011

Todd Parfitt
State of Wyoming – Department of Environmental Quality
Industrial Siting Division
Herschler Building 4-W
122 West 25th St.
Cheyenne, WY 82002

RE: Response to Wyoming Department of Environmental Quality's Review of Addendum #2 for the Section 109 Permit Application for Pioneer Wind Park I and Pioneer Wind Park II, dated April 12, 2011

Dear Mr. Parfitt,

Wasatch Wind Intermountain, LLC (WWI) acknowledges receipt of your letter regarding the revised site plan for Pioneer Wind Park I and Pioneer Wind Park II Section 109 Industrial Siting Act Permit Application.

On April 1, 2011, WWI submitted a revised turbine layout and site plan for the Wyoming Industrial Development Information and Siting Act Section 109 Permit Application for Pioneer Wind Park I (PWPI) and Pioneer Wind Park II (PWPII).

On April 12, 2011, WWI received your request to revise all pages and appendices of the application that have been affected by the revised site plan. Accompanying this letter we provide a detailed review of the revised site plan, the requirements of each subsection of Section 109, and our analysis of changes, if any, from the original application. In addition, please find maps and appendices, revised where necessary, indicating any alterations.

Please note that while reviewing the original Application, maps, and appendices, WWI made additional minor modifications to the site plan that was sent to ISD on April 1, 2011. These modifications were made to capture adjustments made since the submission of the original Application and were made in response to feedback received from State Agencies, local governments and residents within the area of site influence. They reflect the type of routine changes seen as projects evolve in response to such comments – what we believe to be the fundamental purpose of the review process. Given the opportunity to present these changes prior to the hearing we elected to incorporate them at this time, thereby minimizing changes that are commonly submitted to you after a permit is granted. We do not believe these amendments cause any impact on the analysis and studies already submitted beyond those noted in the attached. As a result, the information and appendices contained within this packet supersede the site layout and maps provided previously.

Please note that the revised site layout provided today remains within the scope of the original site layout; it includes the same total number of turbines, the same number of turbines within each project area and the same size turbines. Also please note that the projects remain well within the same Pioneer Study Area Boundary as identified in the original Application.

We believe that the revised site layout provides the most benefit and the least impact to the area of site influence without material changes to the information supplied in support of the original Application. We believe these to be responsive alterations that are consistent with the law and intent of the Industrial Siting Act.

Sixty packets with copies of the following documents are enclosed with this letter and provide a thorough review of the changes to the originally submitted Section 109 Permit Application for PWP I and PWP II resulting from the revised and improved Site Layout.

1. Memorandum providing a summary of changes to subsections of W.S. §35-12-109
2. Summary of Changes to Permit Application
3. Affected and Revised Application Pages –Pages include submission date, and supersede the same numbered pages in the original Application.
4. Affected and Revised Appendices – Maps A-1 to A-3 Revised (R), Maps F 1 – F 11 Revised (R)

Thank you for your attention to this matter. Please do not hesitate to contact me should you have questions or need more information.

Sincerely,

Christine Watson Mikell
Director of Development
Christine@wasatchwind.com
801-455-1045

Wasatch Wind

MEMORANDUM

To: Wyoming DEQ – Industrial Siting Division
From: Pioneer Wind Park I, LLC and Pioneer Wind Park II, LLC
Re: Changes to subsections of W.S. § 35-12-109 based on revised turbine layout
Date: April 15, 2011

On April 1, 2011, Wasatch Wind Intermountain (WWI) submitted a revised site layout for the Wyoming Industrial Development Information and Siting Act Section 109 Permit Application for Pioneer Wind Park I and Pioneer Wind Park II (Application).

On April 12, 2011, WWI received the request from the Industrial Siting Division that we revise all affected pages and appendices of the application that have been affected by the revised site layout. While reviewing the Application and updated appendices, WWI made additional minor modifications to the site layout that was sent to ISD on April 1, 2011.

The revised site layout provided today includes the same number and size turbines, within the same Pioneer Study Area Boundary as identified in the original Application. Modifications to the site layout were made in response to feedback received from State Agencies and local governments and residents within the area of site influence, as part of the Industrial Siting permit review process, as well as to further the normal development process.

We understand that the purpose of the Industrial Siting law is to work toward outcomes that provide the most benefit and the least impact to the area of site influence. We listened and accommodated the input we received during this process in order to fulfill this purpose of the Siting Law. The modifications that were made remain well within the scope of the original site layout, while reducing impacts, enhancing benefits and overall improving the wind energy projects for all parties.

This memo addresses each specific subsection of W.S. § 35-12-109, and sets out what has changed and what has not changed based on the revised turbine layouts for Pioneer Wind Park I and Pioneer Wind Park II (the Projects). Each subsection of Section 109 is set forth with an assessment of if and how portions of the Application have or have not changed – positively or negatively - due to the revised turbine layouts and associated changes to the proposed site plan.

In summary, very little of the analysis in the submitted Application has changed with the updated layout. The only changes are as follows:

1. Scenic resource impacts were reduced or eliminated from the Glenrock community and from two historic properties identified by the State Historic Preservation Office;

2. PWP II wind turbine generators (WTGs) were moved westward to further avoid identified raptor concentration areas;
3. There may be an increased temporary disruption of hunting in the northern area of the Deer Creek Hunter Management Area (HMA) during construction. However, any impacts remain limited to an area less than 1% of the total acreage of the HMA;
4. Thirty-one of the 62 turbines were moved outside of the cultural resources survey area. New cultural surveys began on Monday, April 11th. Weather permitting, these surveys will be completed by April 18th. It is anticipated that a map of survey results will be completed by April 20th. A full report on the findings of these surveys is expected to be complete in early May and will be immediately forwarded to the Industrial Siting Division. Should any cultural resources be identified, WWI commits to microsite turbines to avoid any direct impacts to those resources;
5. Temporary and permanent impacts to vegetation will increase by 8.9% and 7.4%, respectively. However, the nature of these changes may reduce impacts to wildlife over the long term.
6. Other relevant changes in Project-related effects include:
    a. potential noise impacts for neighboring landowners most likely will decrease;
    b. turbines moved to softer bedrock geology may decrease potential for noise disturbance during construction;
    c. shifting turbines from rockier soils to loams may reduce the potential for fugitive dust generation and increase the potential for successful reclamation and revegetation of disturbed sites
    d. increasing the number of turbines in potential fossil yield class 5 may cause a minor increase in potential to impact fossils on private lands during construction;
    e. turbines moved in PWP I will further distance project activities from the Town of Glenrock's wellhead protection zones, further minimizing any potential that this resource could be affected by project construction.

W.S. § 35-12-109. Application for permit; form; fee; financial accounting.

(a) An application for a permit shall be filed with the division, in a form as prescribed by council rules and regulations, and shall contain the following information:

(i) The name and address of the applicant, and, if the applicant is a partnership, association or corporation, the names and addresses of the managers designated by the applicant responsible for permitting, construction or operation of the facility;

Response: No change. The name and address of the applicant is identified on page 2-1 of the Application and has not changed due to the revised layout.

(ii) The applicant shall state that to its best knowledge and belief the application is complete when filed and includes all the information required by W.S. 35-12-109 and the rules and regulations, except for any requirements specifically waived by the council pursuant to W.S. 35-12-107;

Response: As noted in WWI's Letter of Transmittal for the Application, we believe that the Application was complete when filed. With submittal of this memo to the Industrial Siting Division (ISD), we believe that the Application is complete with respect to the revised turbine layouts and site plan submitted to the ISD on April 1, 2011.

(iii) A description of the nature and location of the facility;

Response: The nature of the facility has not changed. The location of the facility remains within the Pioneer Study Area Boundary as identified in the Application.

The nature and location of the facility, as identified in Section 2.4, 2.7, 2.8, and 2.9 of the Application, has not changed. The Pioneer Study Area Boundary identified in the maps in Appendices A and F has not changed and the projects remain within this Study Area Boundary. The locations of WTG's in PWP I and PWP II have moved within the Study Area Boundary which creates a change to the preliminary site plan identified in Section 2.6 (page 2-6) and presented in Map A-2 and the other maps in Appendix A and Appendix F. Specifically, 12 WTG locations in PWP I have been moved from the northwestern portion of the study area to the southern and eastern portions of the PWP I site in order to reduce visual impacts to the Glenrock community.

All 31 proposed WTG locations in PWP II have been shifted westward; however, 12 of these are in the immediate vicinity of the original WTG locations shown in the Application. The remaining 19 WTG locations have shifted to the west of Mormon Canyon Road but remain well within the study area boundary. The Projects' collector substation, previously shown located within the PWP I site, has been moved to PWP II and the transmission line has been lengthened accordingly. A collector line has been added between PWP I and the project substation in PWP II. This collector line will most likely be built underground. There has been a minor modification to the alignment of the project transmission line through PWP I.

As a result of the change in PWP I and PWP II turbine locations, there have been modifications to the access routes and locations of temporary use areas (i.e., parking and laydown areas) in PWP II. These changes are shown in the revised site plan, attached. These locations are all within the Pioneer Study Area Boundary identified in the Application.

(iv) Estimated time of commencement of construction and construction time;

Response: No change. The estimated time of commencement of construction and construction time remains as identified in Sections 3.1, and 3.2 of the Application.

(v) Estimated number and job classifications, by calendar quarter, of employees of the applicant, or contractor or subcontractor of the applicant, during the construction phase and during the operating life of the facility. Estimates shall include the number of employees who will be utilized but who do not currently reside within the area to be affected by the facility;

Response: No change. The estimated number and job classifications, by calendar quarter, of local and non-local project construction and operations workers remains as identified in Sections 3.3, 3.4, and 5.3 of the Application.

(vi) Future additions and modifications to the facility which the applicant may wish to be approved in the permit;

Response: No change. As stated in Section 2.8 (page 2-11) of the Application, WWI currently has no plans to add more phases or modify the proposed facilities.

(vii) A statement of why the proposed location was selected;

Response: No change. The reasons that the proposed project locations were selected have not changed from what is stated in Section 2.3 (pages 2-4 and 2-5) of the Application. As stated above, the proposed modifications to the PWP I and PWP II turbine layouts were undertaken to further avoid and minimize impacts to sensitive wildlife habitats and viewsheds from Glenrock and two historic properties, the Huxtable Ranch and Grant Barn.

(viii) A copy of any studies which may have been made of the environmental impact of the facility;

Response: Chapter 6 of the Application provides an assessment of the environmental impacts of the Projects. The minor changes in environmental impacts associated with the new turbine layout and site plan are summarized under § 35-12-109(a)(xiii), below. Separate reports documenting the results of vegetation and wildlife studies and cultural resource surveys are presented in Appendices H and I of the Application, respectively. These studies provide descriptions of baseline conditions conducted on the study area, including the revised turbine locations, but do not and were not intended to analyze environmental impacts. Consequently, these reports will not need to be changed as a result of these turbine moves.

(ix) Inventory of estimated discharges including physical, chemical, biological and radiological characteristics;

Response: No change. As documented in Section 6.1 (page 6-1) of the Application, the Projects will entail no physical, biological, or radiological discharges. The revised turbine layouts have no effect on this conclusion.

(x) Inventory of estimated emissions and proposed methods of control;

Response: No change. Air emissions associated with construction and operation of the Projects are documented in Section 6.2 of the Application (pages 6-2 to 6-4). There will be no appreciable change in air emissions associated with the revised turbine layouts.

(xi) Inventory of estimated solid wastes and proposed disposal program;

Response: No change. The revised turbine layouts and site plan have no effect on estimated solid wastes and the proposed disposal program documented in Sections 5.4.5.7, 7.1.6.16, and 7.1.6.17 of the Application.

(xii) The procedures proposed to avoid constituting a public nuisance, endangering the public health and safety, human or animal life, property, wildlife or plant life, or recreational facilities which may be adversely affected by the estimated emissions or discharges;

Response: No change. The revised turbine layout and site plan have no effect on the procedures proposed to control, avoid, minimize, and mitigate potential Project-related impacts identified in Chapter 7 of the Application.

(xiii) An evaluation of potential impacts together with any plans and proposal for alleviating social and economic impacts upon local governments or special districts and alleviating environmental impacts which may result from the proposed facility. The evaluations, plans, and proposals shall cover the following:

(A) Scenic Resources;

Response: Impacts reduced. Impacts to the scenic resources of the Glenrock community will be reduced from those documented in Section 6.11 of the Application by the change in turbine layout for PWP I. Impacts to scenic resources to homes and properties along Box Elder Road will be reduced or in some cases eliminated due the proposed change in turbine layout for PWP II.

(B) Recreational Resources;

Response: As stated in Section 6.13.2 of the Application, no developed public parks or recreation facilities exist within the study area boundary. Therefore the revised turbine layouts and site plan will not change the impacts to developed public parks or recreation facilities described in the Application. Similarly, the revised layout will have no effect on the use of community parks and local recreational facilities during construction, as discussed in Sections 5.4.5.12 and 6.13.4 of the Application.

The only change that would occur to Recreational Resources as a result of the revised application is an increase in the number of turbines located within the northern portion of the Deer Creek Hunter Management Area (HMA), which may cause an increased temporary impact on hunting in the immediate vicinity of the turbines during the construction period. Specifically, the revised layout will result in five WTGs in PWP I being located in the Deer Creek HMA, an increase of one WTG from the turbine layout assessed in the Application. The revised turbine layout for PWP II results in 19 WTGs being located in the HMA rather than zero under the turbine layout described in the Application.

The Deer Creek Hunter Management area consists of 67,532 acres. Thus, the area containing these 19 PWP II turbines still represent less than one percent of the HMA. The change in turbine layouts will have no discernible change in effects on hunting in the PWP I area but will entail a greater temporary impact on hunting during the PWP II construction period. Following construction, hunting activities would resume assuming that the landowners continue to participate in the HMA program. These minor changes to recreational resources within the study area will have no effect on the social and economic conditions of the current inhabitants or expected future inhabitants of the affected area. Map F-11R Recreational Resources has been updated with the revised turbine layout and is attached.

(C) Archaeological and historical resources;

Response: As documented in Sections 6.12.4 and 6.12.5 of the Application, the turbine locations assessed in the Application were sited to have no direct impacts on cultural resources. Due to the proposed change in turbine layouts, seven WTG locations in PWP I and 24 WTG locations in PWP II were not included in the original cultural survey completed in the fall of 2010. Similarly, the changes in the length and alignment of the transmission line were not covered by the 2010 cultural resources surveys. Archaeological surveys for the new turbine sites, access roads, transmission line extension, and other relocated project facilities were initiated on April 11, 2011. Weather permitting, these surveys are expected to be completed by April 18, 2011. It is anticipated that a map of survey results will be completed by April 20th and the results will immediately be forwarded to the Industrial Siting Division. Just as with the previous layouts, WWI will microsite individual turbine locations to avoid direct impacts to cultural resource sites identified during these surveys. Map F-10R Cultural Resources Inventory Area has been updated with the revised turbine layout and is attached.

Following submittal of the Application, ISD received input from the Wyoming State Historic Preservation Office (SHPO) that they would like WWI to consider the impacts of the Projects to the viewsheds from two historic properties, the Huxtable Ranch, just listed on the NHRP on April 7th, and the Grant Barn. SHPO does not have jurisdictional authority to regulate impacts to cultural resources located on private lands. Nonetheless, in part to avoid and minimize any impacts, WWI revised the PWP II turbine layout, shifting WTGs westward out of the viewshed of the Huxtable Ranch and significantly decreasing the impacts to the viewshed from the Grant Barn.

Based on our viewshed analysis, there will be zero WTGs visible from the Huxtable Ranch house and there will be seven WTGs (in PWP II) partially visible from the Grant Barn. This is a reduction from 21 WTGs that were visible from the Huxtable Ranch house and 22 WTGs that were visible from the Grant Barn under the layout provided in the Application. Given that the nearest three of the seven visible WTGs are approximately three miles from the Grant Barn and the remaining four WTGs are between four and five miles away, visual impacts to the Grant Barn under the revised turbine layout are minimal. Furthermore, the Grant Barn is owned by one of PWP II's participating landowners who has no objection to having WTGs within the viewshed of his barn.

(D) Land use patterns;

Response: No Change. Under the revised turbine layouts and site plan, there will be no change to the Projects' construction and operational impacts to land use patterns documented in Sections 6.14.3 and 6.14.4 (page 6-77) of the Application.

(E) Economic Base;

Response: No change. The revised turbine layouts and site plan will not affect the economic base as described in Section 5.4.2.3 (pages 5-22 to 5-26) of the Application.

(F) Housing;

Response: No change. The revised turbine layouts and site plan will not result in any change to the Projects' effects on housing as presented in Section 5.4.4 (pages 5-39 to 5-54) of the Application.

(G) Transportation;

Response: No change. The revised turbine layouts and site plan will have no effect on transportation beyond those described in Section 6.15 of the Application.

(H) Sewer and water facilities;

Response: No change. The revised turbine layouts and site plan will have no effect on sewer and water facilities beyond those documented in Sections 5.4.5.5, 5.4.5.6, and 6.5 of the Application.

(J) Solid waste facilities;

Response: No change. The revised turbine layouts and site plan will entail no change in the Projects' effects on solid waste facilities presented in Sections 5.4.5.7 and 7.1.6 of the Application.

(K) Police and fire facilities;

Response: No change. The revised turbine layouts and site plan will cause no change in the Projects' effects on police and fire facilities described in Sections 5.4.5.8, 5.4.5.9, 7.1.6.1, 7.1.6.3, and 7.1.6.4 of the Application.

(L) Educational facilities;

Response: No change. The revised turbine layouts and site plan will have no effect on educational facilities beyond those described in Section 5.4.5.13 of the Application.

(M) Health and hospital facilities;

Response: No change. The revised turbine layouts and site plan will have no effect on health and hospital facilities different from those described in Section 5.4.5.10 of the Application.

(N) Water supply;

Response: No change. The revised turbine layouts and site plan will have no effects on water supply beyond those presented in Sections 5.4.5.6, and 6.5 of the Application.

(O) Other relevant areas.

Response: The changes in turbine layouts and site plan will result in minor changes in impacts from those described in the Application for the following resources: noise, bedrock geology, surficial geology, paleontology, soils, surface water and wetlands, groundwater, and vegetation. The difference in impacts for each of these resources is summarized below.

Noise – The revised turbine layouts will result in decreased noise levels at properties located along Box Elder Road southwest of the Pioneer Study Area Boundary. Otherwise, there will be no change in noise levels other than a general southward shift in sound levels associated with PWP I and a westward shift for sound levels associated with PWP II. No residences would be affected by these alterations. Consequently, these changes would neither pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the affected area. For a depiction of the noise contours associated with the revised turbine layouts, please refer to the revised Map F-1R Predicted Noise Levels, attached.

Bedrock Geology – Under the revised turbine layout for PWP I, four WTGs will be removed from the Casper Formation and two WTGs will be removed from Madison Limestone. As a result, there will be an increase of one WTG in sedimentary rocks of the Ogallala Formation and an increase of five WTGs located in Archean Granite. In PWP II, 19 WTGs would be relocated from Archean Granite to the Ogallala Formation. The overall effect of these changes is likely to be a decrease in construction noise associated with the excavation of turbine foundations as WTGs will be located in softer geologic substrates. Consequently, these changes would neither pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the affected area. Map F-2R Bedrock Geology (attached) has been revised to reflect the modified turbine layouts and site plan.

Surficial Geology – Under the revised turbine layout for PWP I, there will be a net decrease of four WTGs located in colluvium and residuum and an increase of four WTGs located in slopewash surficial deposits. In PWP II, 19 turbines will be relocated from slopewash to residuum. While these changes may entail slight modifications to construction techniques and foundation design, they would not pose a threat of serious injury to the environment nor would they impact the social and economic condition of inhabitants or expected inhabitants in the affected area. Map F-3R Surficial Geology has been updated to show the revised turbine layout and is attached.

Paleontology – The revised turbine layout for PWP I will result in 11 WTGs being located in potential fossil yield classification (PFYC) Class 5 (geologic substrates most likely to contain fossils) and 20 WTGs located in PFYC Class 1 (geologic substrates least likely to contain fossils). With six turbines relocated from Class 3, this is an increase of 1 WTG located in Class 5 and five WTGs in Class 1. In PWP II, 19 WTGs will be relocated from Class 1 to Class 5. While these changes may result in a somewhat greater likelihood of fossil disturbance during excavation of turbine foundations the minor increase in potential to impact fossils during construction does not pose a threat of serious injury to the environment. Map F-4R Paleontology has been updated to show the revised turbine layout and is attached.

Soils – With the revised turbine layout for PWP I, there will be a decrease of five WTGs located in Pilot Peak-Canwell soil complex, an increase of three WTGs located in the Boyle-Rock outcrop complex, and an increase of two WTGs located in Nunnston loam relative to the turbine layout presented in the Application. In PWP II, the revised layout will result in a decrease of 12 WTGs in the Boyle-Rock outcrop complex, a decrease of eight WTGs in the Rock outcrop-Cathedral complex, an increase of 18 WTGs in the Boyle-Lininger map unit, and an increase of two WTGs in Nunnston loam. Overall, these changes would result in fewer WTGs being located in soils with high potential for wind erosion, which will reduce the potential for fugitive dust generation. It will also increase the number of turbines located in loamy soils, increase the potential for successful reclamation and revegetation of disturbed sites. Consequently, the revised turbine layouts and site plan are likely to result in decreased construction impacts than those presented in the Application. Map F-5R Soils has been updated with the revised turbine layout and is attached.

Surface Water and Wetlands – The revised turbine layout for PWP I will result in only three WTGs being located in the Little Deer Creek sub-watershed, a substantial reduction from the eight turbines that were located in this sub-watershed under the previous layout. This reduction will further distance project activities from the Town of Glenrock's wellhead protection zones, further minimizing any potential that this resource could be affected by project construction.

The revised turbine layout for PWP II would shift six WTGs from the Box Elder Creek – Virden Creek sub-watershed to the Box Elder Creek – Hunton Creek sub-watershed. The access road to one of the turbine rows will cross South Willow Creek/Gross Creek and a second, intermittent tributary to Willow Creek. To the extent that these streams constitute waters of the U.S., these crossings will require a Clean Water Act Section 404 permit from the U.S. Army Corps of

Engineers. Given that a 404 permit will be already be required under the original Applicationfor re-setting and/or replacing existing culverts along Mormon Canyon Road, this does not constitute a substantive change from the previous layout. Furthermore, the Section 404 permit process requires mitigation of impacts. Thus, this change will not pose a threat of serious injury to the environment nor will it impact the social and economic condition of inhabitants or expected inhabitants in the affected area. Map F-6R Surface Water and Wetlands has been updated to show the revised turbine layout and is attached.

Groundwater – The revised turbine layout for PWP I would not result in a substantive change in WTG locations relative to depth of groundwater. In PWP II, the majority of turbines would shift from areas with deep groundwater (50-55 feet deep) to areas in which depth to groundwater is 35 – 40 feet deep. No wells or springs would be affected by this change. Overall, there would be no change to the Projects' effects on groundwater beyond those already described in the Application. Map F-7R has been updated to reflect the revised turbine layout and is attached.

Vegetation – Under the revised PWP I and PWP II turbine layouts and site plan, there will be an increase in temporary disturbance to vegetation of 29.8 acres and an increase in permanent disturbance to vegetation of 8.1 acres relative to the layout analyzed in the Application. These changes constitute an 8.9% increase in temporary disturbance to vegetation and a 7.4% increase in permanent disturbance relative to the impacts identified in the Application. These increases result primarily from the increased length of the proposed transmission line and the increased length of access roads to the western turbine arrays in PWP II. Impacts to Aspen Woodland-Mixed Conifer Forest, Foothill-Valley Grassland, Mountain Mahogany Woodland and Shrubland, Ponderosa Pine Woodland and Savanna, and Sagebrush Steppe will be reduced under the revised turbine layout whereas impacts to Dwarf Sagebrush Steppe, Mixed Grass Prairie, and Riparian and Floodplain Systems will increase. The shift in vegetation communities impacted by construction and operation of the Projects reduces impacts to late seral stage communities (i.e., woodlands and forests) and increases impacts to early seral stage communities (i.e., grasslands and shrublands), which are far more expedient to reclaim and revegetate. Consequently, although the revised turbine layouts and site plan will affect a slightly greater area than the layout assessed in the Application, the net long-term impact is likely to be lower. Overall, temporary and permanent impacts to vegetation will still only account for 1.5% and 0.5% of the study area, respectively. Map F-8R Vegetation has been updated to reflect the revised turbine layout and is attached.

(P) Agriculture;

Response: No change. The revised turbine layouts and site plan will cause no effects to agriculture that are different from those described in Sections 5.4 and 6.14 of the Application.

(Q) Terrestrial and aquatic wildlife;

Response: Impacts reduced. Moving the WTGs westward in PWP II further avoids raptor concentration areas identified through the final Year 1 raptor flight path analysis and mapping of prey resources (prairie dog towns and sage-grouse leks). Therefore, the changes to the turbine layout is expected to reduce potential Project-related impacts to raptors.

A minor shift in effects on other wildlife species is anticipated to result from the change in habitats affected by the revised turbine layouts. As described above under Vegetation, the revised turbine layouts would result in relatively fewer impacts to forest and woodland vegetation and slightly greater impacts to grassland and shrub-dominated plant communities. Given that habitats with higher vegetation volumes have been shown to support greater bird species diversity, the shift in impacts from forest and woodland communities to shrub and grassland communities is likely to reduce overall impacts to avifauna relative to the turbine layouts and site plan presented in the Application.

Project-related impacts to other species and species groups (i.e., Greater Sage-Grouse, bats, small mammals, big game, reptiles and amphibians, and fisheries) under the revised turbine layouts and site plan are not expected to change from those described in the Application. Although a WGFD-mapped mule deer migration route bisects the revised PWP II turbine layout, field observations of big game movements through the study area indicate that seasonal movements are more dispersed than indicated by this route. Map F-9R Wildlife has been updated with the revised turbine layouts and site plan and is attached.

(R) Threatened, endangered, and rare species and other species of concern identified in the state wildlife action plan as prepared by the Wyoming game and fish department.

Response: No change. There are no federally listed threatened or endangered species known to occur within the Pioneer Study Area Boundary. The changes in turbine layouts and site plan will not result in any change in Project-related effects to candidates for federal listing (Greater Sage-Grouse) or Wyoming

species of greatest conservation need (SGCN) beyond those described in Sections 6.9.4 and 6.9.5 of the Application.

(xiv) Estimated construction cost of the facility;

Response: No change. The revised turbine layouts and site plan have no effect on the estimated cost to construct the facility.

(xv) What other state or federal permits and approvals are required;

Response: No change. The changes in turbine layouts and site plan have no effect on the state and federal permits and approvals required for the Projects as already summarized in Table 3-5 (page 3-22) of the Application.

(xvi) Compatibility of the facility with state or local land use plans, if any:

Response: No change. The revised turbine layouts and site plan have no effect on the Projects' compatibility with existing land use plans as documented in Sections 5.4.1 and 6.14 of the Application.

(xvii) Any other information the applicant considers relevant or required by council rule or regulation;

Response: The applicant has no other information that it considers relevant or required by council rule or regulation at this time.

(xviii) A description of the methods and strategies the applicant will use to maximize employment and utilization of the existing local or in-state contractors and labor force during the construction and operations of the facility;

Response: No change. The revised turbine layouts and site plan will have no effect on methods and strategies that will be used to maximize use of local labor resources. These methods are documented in Section 3.3.2 (page 3-8) of the Application and were reiterated in WWI's response to the ISD's March 4, 2011, Notice of Deficiency.

(xix) Certification that the governing bodies of all local governments which will be primarily affected by the proposed facility were provided notification, a description of the proposed project and an opportunity to ask the applicant questions at least thirty (30) days prior to the submission of the application;

Response: No change. The revised turbine layouts and site plan have no effect on WWI's October 6, 2010, certified notifications to local government bodies (described in Section 4.2.1 of the Application), which did not provide a depiction of proposed turbine layouts.

(xx) For facilities permitted pursuant to W.S. 35-12-102(a)(vii)(E), a site reclamation and decommissioning plan, which shall be updated every five (5) years and a description of a financial assurance plan which will assure that all facilities will be properly reclaimed and decommissioned. All such plans, unless otherwise exempt, shall demonstrate compliance with any rules or regulations adopted by the council pursuant to W.S. 35-12-105(d) and (e);

Response: No change. The changes in turbine layouts and site plan have no effect on the site reclamation and decommissioning plan that was submitted to the ISD in response to the March 4, 2011, Notice of Deficiency.

(xxi) Information demonstrating the applicant's financial capability to construct, maintain, operate, decommission, and reclaim the facility.

Response: No change. The revised turbine layouts and site plan has no effect on the applicants' financial capability to construct, maintain, operate, decommission, and reclaim the facility.

I hereby certify that the above analysis is complete and accurate to the best of my ability.

Christine Watson Mikell, Director of Development

4/15/2011
Date

Summary of Changes to Pages within the Section 109 Permit Application for PWP I and PWP III due to revised Site Layout

The following document summarizes the changes to each page included in the PWP I and PWP II Section 109 Application that have changed due to the revised Site Layout. Following this summary are copies of the changes Application pages.

Executive Summary

1. Page ES-ii Land Use

   With the revised site layout we are no longer pursuing WTG locations on Wyoming State Lands and therefore do not need to pursue a lease on State Lands. We are still proposing to cross State Lands with the interconnection transmission corridor. Therefore, the following changes were made:

   - Removed mention that the proposed Projects' WTGs will be located on Wyoming State School Trust lands in Converse County.

   - Removed mention that prior to initiating development of WTGs on State Lands, a lease from the State of Wyoming Board of Land Commissioners would be sought.

   - Also clarified that prior to crossing any State Lands with a transmission interconnection corridor, we would obtain a Non-Roadway Easement and Temporary Use Permit.

2. Page ES-iii Components

   - Due to the revised site layout, the length of the 230 kV transmission line that will be built to connect the project substation to the Rocky Mountain Power transmission line is 1.5 miles longer.

3. ES – vi Socioeconomic Assessment

   - Since we are no longer pursuing turbine locations on Wyoming State Lands, reference to the State of Wyoming receiving land lease revenues has been removed.

4. ES – vii Environmental Impact Analyses

   - Willow Creek remains the nearest perennial water body to the two Projects. However, the distance from Willow Creek to the nearest WTGs in PWP I and PWP II has changed.

Chapter 1.0 Purpose, Need and Benefit

1. Page 1-4 – Section 1.3 Benefits

- Since we are no longer pursuing turbine locations on Wyoming State Lands, land lease payments will not be made to the State of Wyoming.

2. Page 1-4 – Section 1.3.1 Economic Benefits

   - Since we are no longer pursuing turbine locations on Wyoming State Lands, land lease payments will only be made to private landowners and not potentially to the State of Wyoming.

3. Page 1-5 – Section 1.3.1.1 Employment and Personal Income

   - Since we are no longer pursuing turbine locations on Wyoming State Lands, the Wyoming State Land Board is not included among the landowners.

4. Page 1-8 – Section 1.3.1.2 Fiscal Benefits

   - Since we are no longer pursuing turbine locations on Wyoming State Lands, the Wyoming State Land Board would not realize lease and royalty revenues from state trust lands included in the projects.

Chapter 2.0 Applicant and Facility Description

1. Page 2-5 – Section 2.4 Nature and Location of Facility

   a. Updated reference to revised Project Location Map as Map A-1R in Appendix 3

2. Page 2-6 – Section 2.6 Preliminary Site Plan

   - Added reference to the revised site plan and corresponding Map A-2R.

3. Page 2-6 – Section 2.7 Land Ownership

   - Although State Lands are contained within our project area, we are no longer contemplating locating any of the turbines or project infrastructure on State Lands. Therefore we are no longer pursuing a lease on State Lands for PWP I or PWP II.

   - The proposed development site acreage for PWP I and PWP II has been altered with the revised site layout, from 4,354 acres and 7,510 acres to 3,061 and 7,158 acres respectively.

   - Section 2.7 refers to Table 2-2, which identifies State Lands parcels for which WWI intends to pursue a lease. Now that State Lands will no longer be needed for PWP I and PWP II, this table is no longer relevant and should be removed from the Application and therefore its reference in this Section was removed.

4. Page 2-10 – Table 2-2 State Lands (Lease Application Pending)

- WWI withdrew its lease application with the Office of State Lands, for the TSRs listed in Table 2-2, on March 28, 2011. Therefore Table 2-2 is removed from the application.

5. Page 2-11 – Section 2.7.1 Mineral Ownership

   - Based on the revised site layout, we were unable to identify any additional mineral owners other than those we had initially contacted. However, the legal notices that were published in the two local newspapers satisfies both the Wyoming Statute Sec. 35-12-105 (f) and the proposed ISC Rules as the lands stated in the public notice cover all lands on which the new turbine layout is situated.

6. Page 2-12 – Section 2.9 Wind Energy Facility Components

   - Due to the revised site layout, the length of the 230 kV transmission line that will be built to connect the project substation to the Rocky Mountain Power transmission line is 1.5 miles longer.

7. Page 2-12 – 2.9.1 Wind Turbine Generators

   - Updated reference to revised maps in Appendix 3.

8. Page 2-15 – Section 2.9.2 Power Collection System

   - The collector substation has been moved from PWP I to PWP II. The new location is on private lands, already under lease.

9. Page 2-16 – Section 2.9.3 SCADA System

   - The host computer(s) is expected to be located in the substation building control room which has been moved to PWP II.

Chapter 3.0 Construction, Operations and Decommissioning

1. Page 3-13 –3.5.5 Power Collection System

   - The substation location has been moved to PWP II. The new location is on private lands, already under lease.

   - Updated reference to the revised site plan Map A-2R in Appendix 3.

2. Page 3-14—3.5.5.2 Collector Substation

   - The substation location has been moved to PWP II. The new location is on private lands, already under lease.

   - Updated reference to the revised site plan Map A-2R in Appendix 3.

3. Page 3-15—3.5.5.3 230 kV Transmission Lines

    - Due to the revised site layout, the length of the 230 kV transmission line that will be built to connect the project substation to the Rocky Mountain Power transmission line is 1.5 miles longer.

    - Updated reference to the revised site plan Map A-2R in Appendix 3.

4. Page 3-16 – 3.5.6 Meteorological Towers

    - Updated reference to the revised site plan Map A-2R in Appendix 3.

5. Page 3-23—Table 3-5 Potential Federal, State and Local Permit Requirements

    - Since we are no longer pursuing turbine locations on Wyoming State Lands, reference to the need for a Wind Energy Lease from Wyoming Office of State Lands and Investments was deleted and replaced with needing a Non-Roadway Easement and a Temporary

Chapter 4.0 Public Involvement

1. Page 4-30 - 4.2.5 WWI Responses to Community Concerns

    - The distance from the closest non-participating landowner's home to the nearest proposed turbine has increased .2 miles.

Chapter 5.0 Socioeconomic Assessment

1. Page 5-15 - Section 5.4.1 Land Use and Land Use Changes

    - Clarified the agricultural uses on the lands in PWP I and PWP II where development will occur.

    - With the revised site layout, project lands are grazed by four, rather than two, ranching operations.

2. Page 5-16 – Section 5.4.1 Land Use and Land Use Changes

    - The acreage unavailable for forage during construction has increased slightly from 332 to 362 acres and the permanent disturbance area has increased slightly from 110 to 118 acres.

    - With the revised site layout, the Wyoming State Land Board will no longer be included among the landowners who will receive revenue.

Chapter 6.0 Evaluation of Environmental Impacts

1. Page 6-9 - Section 6.3 Noise - Subsection 6.3.5 Operation Impacts

- The revised turbine layout has resulted in a change in shape of sound-level contours around the two projects sites. Refer to revised Map F-1R.
- As a result, the predicted sound levels outside of the closest participating and non-participating landowners are 44.9 dBA and 37.7 dBA, respectively.

2. Page 6-23 - Section 6.4 Geology and Soils - Sub Section 6.4.6 Construction Impacts
   - Changed "Geotechnical investigations for PWP II will be initiated when the State Lands Board determines whether or not PWP II, LLC will be granted a wind energy lease on state lands" to "Geotechnical investigations for PWP II will likely be initiated in Fall of 2011."
3. Page 6-34 - Section 6.7 Wetlands and Waters of the U.S. – Sub Section 6.7.5 Construction Impacts
   - Changed "Map F-6 in Appendix F shows that a PWP I access road for a three-WTG array just north of Lone Tree Creek would cross two intermittent drainages tributary to Lone Tree Creek and Willow Creek" to "Map F-6R in Appendix 3 shows that new access roads have avoided crossing perennial and intermittent drainages wherever possible."
   - Changed "Prior to completing the final access road layout and design, the route for this access road and two other PWP I access roads located adjacent to streams will be surveyed for wetlands and other waters of the U.S. If practicable, crossing of these tributaries will be avoided in the final road design" to "Prior to completing the final access road layout and design, any access routes or collector lines that cross or are located immediately adjacent to streams or stream beds will be surveyed for wetlands and other waters of the U.S. Where practicable, crossing of or encroachment on these tributaries will be avoided in the final road design."
   - Changed "Should road crossings or collector line crossings prove necessary, PWP I, LLC will conduct a wetlands delineation and apply for the appropriate state and federal permits" to "Should road crossings or collector lines crossings prove necessary, PWP I, LLC and/or PWP II, LLC will conduct a wetlands delineation and apply for the appropriate state and federal permits."
4. Page 6-38 - Section 6.8 Vegetation, Special Status Plants, and Rare Plant Communities - SubSection 6.8.3, Table 6-11 Temporary and Permanent Disturbance to Vegetation in the Study Area
   - The new turbine layouts and site plan have resulted in a 30-acre increase amount of temporary impacts to vegetation and an eight-acre increase in the amount of permanent impacts to vegetation.

- There have also been minor shifts in the acreages of different vegetation types affected: impacts to Dwarf Sagebrush Steppe, Mixed Grass Prairie, and Riparian and Floodplain Systems will be marginally greater and impacts to Foothill-Valley Grassland, Montane Grassland and Mesic Meadow, Mountain Mahogany Woodland and Shrubland, Ponderosa Pine Woodland and Savanna, and Sagebrush Steppe will be lower under the new turbine layouts and site plan.

5. Page 6-38 - Section 6.8.4 Construction Impacts

   - Changed statement "Construction of the proposed project would impact about 332 acres or 1.4% of the vegetation within the study area" to "Construction of the proposed projects will impact about 362 acres or 1.5% of the vegetation within the study area."

   - Changed statement "Following construction, temporary use areas would be reclaimed and reseeded and permanent impacts would be reduced to about 110 acres, less than 0.5% of the study area" to "Following construction, temporary use areas will be reclaimed and reseeded and permanent impacts will be reduced to about 118 acres, less than 0.5% of the study area"

6. Page 6-47 - Section 6.9 Terrestrial Wildlife - SubSection 6.9.4.1 Construction Impacts to Greater Sage-Grouse

   - Changed statement "Similarly, the only construction activity to take place within a quarter-mile of the New Lek, located in the PWP II site, will be construction of an unpaved road to access the easternmost turbine array at that site" to "Similarly, there will be no construction activities within a quarter-mile of the Virden Creek Lek and New Lek located in and adjacent to the PWP II site. The nearest construction activities to these leks will take place approximately 1.3 miles from the New Lek and 0.4 miles from the Virden Creek Lek."

   - Changed statement "Although direct impacts to any sage-grouse nests in the area will be avoided by clearing vegetation outside of the sage-grouse nesting season, the loss of nearly 114 acres of sagebrush steppe habitat will reduce the amount of sage-grouse nesting and brood-rearing habitat within the project area" to "Although direct impacts to any sage-grouse nests in the area will be avoided by clearing vegetation outside of the sage-grouse nesting season, the temporary loss of nearly 100 acres of sagebrush steppe habitat will reduce the amount of sage-grouse nesting and brood-rearing habitat within the project area."

7. Page 6-48, Section 6.9.4.3 Construction Impacts to Other Migratory Birds

   - Changed statement "Although 332 acres of vegetation will be cleared during construction, and thereby rendered largely unsuitable as bird habitat, this area represents just over one percent of the habitat available within the study area" to "Although 362 acres of vegetation will be cleared during construction, and thereby rendered largely unsuitable as bird habitat, this area represents just 1.5 percent of the habitat available within the study area."

8. Page 6-49 - Section 6.9.4.6 Construction Impacts to Big Game

- Changed statement “It should be noted that WGFD’s mapped mule deer migration route (Appendix F, Map F-9) passes between the PWP I and PWP II project sites” to “It should be noted that WGFD’s mapped mule deer migration route (Appendix 3, Map F-9R) passes through the PWP II site and the southeastern portion of the PWP I site.”

- Replace statement “This corridor will remain free of direct disturbance during the construction of both projects” with “This route was not mapped based on site-specific information. Although mule deer do move through the area during spring and fall migration in the same general direction as the mapped route, they appear to do so in a dispersed fashion rather than along a narrow, defined pathway.”

- Deleted statement “Thus, provided they are not disturbed by construction activities occurring over one-half mile away and largely screened by topography, animals using this route will be able to continue to do so unimpeded by construction activities.”

9. Page 6-53 and 6-54 - Section 6.9.5.6 Operations Impacts on Big Game

    - Changed “Following construction of the two Projects, approximately 222 acres of temporary use areas will be reclaimed and revegetated, providing high quality forage for big game moving through and foraging in the area. Although approximately 110 acres will remain disturbed or developed, this loss of habitat comprises less than 0.5 percent of the study area and its effects on big game are likely to be negligible” to “Following construction of the two Projects, approximately 244 acres of temporary use areas will be reclaimed and revegetated, providing high quality forage for big game moving through and foraging in the area. Although approximately 110 acres will remain disturbed or developed, this loss of habitat comprises less than 0.5 percent of the study area and its effects on big game are likely to be negligible.”

10. Page 6-60 - Section 6.11 Scenic Resources -SubSection 6.11.2.1 Viewshed Analysis

    - One or more turbines or portions thereof will be visible from approximately 28 percent of the area within 10 miles of the project sites under the new layout. This is a increase of 1.6 % from the layout analyzed in the Application

11. Page 6-61 - Figure 6-1 Results of the Viewshed Analysis and KOP Locations

    - Replaced with revised figure showing results of viewshed analysis for revised turbine layout.

12. Page 6-63 - Section 6.11.2.2 Visual Simulation

    - Added sentence at end of section explaining that turbines in PWP II would be visible from the location of KOP 2; however, they are outside (and to the left or west) of the field of view of this photograph.

13. Page 6-63, Section 6.11.2.3 Summary of Potential Impacts to Visual Resources

- Under the revised turbine layouts, the uppermost portions of only two wind turbines, rather than nine, would be visible from KOP 1 (Figure 6-3).

- Within the 10-mile viewshed, no wind turbines would be visible from 72% of the area and, conversely, turbines or portions thereof would be visible from only 28% of the area.

14. Page 6-64 - Figure 6-3 KOP 1/Deer Creek Road Eastbound Off-Ramp (With Turbines)

    - Photo simulation has been revised to depict new turbine layout.

15. Page 6-65 - Figure 6-5 KOP 2/Intersection of Box Elder and Mormon Canyon Roads, Looking North (With Turbines)

    - Under the new PWP II layout, turbines are no longer visible looking northward from KOP 2. Turbines located to the west, outside of this field of view, would be visible from this KOP. The closest visible turbine is located nearly two miles to the west-northwest. Other turbines located 2.8 – 4.1 miles away would also be visible but would not dominate the view.

16. Page 6-66 - Figure 6-7 KOP 3/Rural Box Elder School, Looking North (With Turbines)

    - Photo simulation has been revised to depict new turbine layout.

17. Page 6-67 -Figure 6-9 KOP 4/Deer Creek Community Hall, Looking Southeast (With Turbines)

    - Photo simulation has been revised to depict new turbine layout.

18. Page 6-69 - Section 6.12 Cultural Resources - SubSection 6.12.3 Cultural Resources in the Project Sites

    - Added statement with information on the cultural resources surveys of the new turbine layouts and site plan that were initiated on April 11, 2011.

    - Added statement summarizing preliminary results of 2011 surveys.

19. Page 6-70 - Section 6.12.4 Construction Impacts

    - Added statement describing avoidance of impacts to newly discovered sites.

20. Page 6-70 - Section 6.13 Recreational Resources - Subsection 6.13.2 Recreational Facilities and Outdoor Opportunities

    - Changed statement “However, only a small portion of the PWP I project site overlaps this HMA” to “A small portion of the PWP I project site and approximately two-thirds of the PWP II project site overlap this HMA.”

21. Page 6-71 - Section 6.13.2 (cont.)

- The nearest proposed turbine locations to National Forest Service lands are located in PWP II approximately 0.6 miles to the north of the Forest boundary.

22. Page 6-74, Section 6.13.4 Construction Impacts

    - Changed statement "The proposed site plan for PWP I includes four turbines which are located in the northern tip of the Deer Creek Hunter Management Area (see Map F-11R)" to "The proposed site plan for PWP I includes five turbines, access roads, the O&M building, and the concrete batch plant located in the northwestern tip of the Deer Creek HMA. PWP II includes 19 WTGs, a permanent met tower, and associated access roads in the HMA (see Map F-11R)"

    - Updated acres of temporary disturbance to the HMA and added acres of permanent disturbance.

23. Page 6-76 - Section 6.14 Land Use - Subsection 6.14.2 Consistency with Land Use Plans

    - Updated acreages of project sites to reflect removal of State Lands

24. Page 6-76 - Section 6.14.2.2 State of Wyoming Land – Special Use Leases

    - Deleted section as it no longer applies to the proposed Projects

25. Page 6-77 - Section 6.14.2.2 State of Wyoming Land – Special Use Leases (cont.)

    - Deleted remainder of section as it no longer applies to the proposed Projects

Chapter 7.0 Controls, Mitigation and Monitoring Measures

1. Page 7-1 -7.1.1 Avoidance

    - Clarified that the revised site plan was designed to take into account additional considerations including scenic resources, cultural resources and comments receiving during the Industrial Siting Division's comment period.

    - Updated reference to the revised site plan Map A-2R in Appendix 3.

2. Page 7-2—7.1.4 Restricted Public Access

    - Clarified that due to the revised site layout, the Projects' WTGs and appurtenant facilities will not be located on State of Wyoming Lands.

3. Page 7-9 - 7.1.6.8 Electromagnetic Fields

    - Due to the revised site layout, the length of the 230 kV transmission line that will be built to connect the project substation to the Rocky Mountain Power transmission line is 1.5 miles longer.

- The distance from the closest residence to the proposed transmission line decreased by approximately 0.2 miles.

4. Page 7-18 -7.2.1.1 Safety Setbacks

    - Setbacks from roads have decreased from approximately 690 feet and 1,420 feet from the nearest turbine in PWP I and PWP II to 480 and 475 feet respectively. These setbacks are still within Converse County setback requirements.

    - The setback from the closest participating residence has decreased .2 miles and the setback from the closest non-participating residence has increased by .2 miles. These setbacks still meet Converse County's setback requirements.

5. Page 7-21 -7.2.3 Noise

    - The distances between a WTG and participating and non-participating landowners has increased, therefore noise impacts have decreased.

6. Page 7-27—7.2.9 Wildlife Resources

    - Updated reference to the revised site plan and corresponding Map A-2R in Appendix 3

7. Page 7-28—7.2.10 Scenic Resources

    - Noted measures incorporated into revised site layout to avoid and minimize impacts to scenic resources.

8. Page 7-28 and 7-29—7.2.11 Cultural Resources

    - Added additional mitigation measures to minimize impacts to cultural resources.

    - Updated reference to the revised site plan and corresponding Map A-2R in Appendix 3

ISA STATUTE AND COST

A Jurisdictional Meeting was held with the ISD on May 4, 2010. In this meeting, ISD staff determined that the Projects fall under the jurisdiction of the ISD because the estimated capital costs of construction exceed the current statutory jurisdictional capital construction cost threshold of $178.3 million (W.S. § 35-12-102 (vii)) and also contemplates construction of more than 30 WTGs (W.S. § 35-12-102 (vii)(E)(I)).

LOCATION

The project area is located in Converse County, Wyoming. The northern extent of the project area (the transmission interconnect location) is located approximately six miles south of Glenrock, Wyoming. Elevations throughout the project area vary from approximately 5,500 feet to 7,000 feet above mean sea level. Interstate 25 runs approximately four miles north of the project area. There are several improved, unpaved roads within the project area, the most prominent being Mormon Canyon Road (County Road CR-18). The project area is relatively undeveloped, is mainly used for ranching, and contains an approximately quarter-acre open-pit rock quarry.

LAND USE

The proposed Projects' WTG's will be located on leased private fee lands in Converse County. The associated transmission interconnection corridor will be located on leased private fee lands and may be located on Wyoming State School Trust lands in Converse County. The project area includes portions of Mormon Canyon Road (Converse County Road CR-18) and at least seven smaller gravel and dirt roads. Lands within the project area are primarily used for ranching (i.e., cattle grazing) and also support some hunting. Following project construction, these uses would continue at the discretion of the landowners while the Projects provide additional income for the leasing landowners. The Projects do not involve any federally owned or managed lands. Prior to initiating a transmission interconnection corridor across State Lands, PWP I, LLC and PWP II, LLC will pursue a temporary use permit and non-roadway easement.

COMPONENTS

The principal components of the Projects include WTGs mounted on three-section tubular towers, transformers, electrical collector lines, fiber optic communication cables, access roads, meteorological

towers, a supervisory control and data acquisition (SCADA) system, an aviation obstacle lighting control system, an operations and maintenance building, an approximately 6.5-mile long 230-kV transmission line and a temporary concrete batch plant (only utilized onsite during construction).

WWI's wholly-owned affiliates will have oversight of the project planning and scheduling, permitting, wind turbine generator supply and delivery, the balance of plant engineering, cost control, evaluation of proposals and equipment, construction, commissioning, testing, and operation of the facility. The selection of the engineering, procurement and construction (EPC) contractor(s) is currently underway.

CONSTRUCTION SCHEDULE

WWI initiated preliminary geotechnical investigation and survey work in June 2010. This work, as well as other site planning and investigation activities have been ongoing since that time. The construction of the projects will take place in two phases separated by six months. PWP I is anticipated to begin construction in June 2011 and will include building 31 WTGs and necessary support buildings, access roads and transmission lines over approximately six months. Construction of PWP II will include erecting 31 WTGs over an approximately five-month period, with construction anticipated to start in July 2012. Commercial operation of PWP I is planned to begin in December 2011 and PWP II is planned to begin commercial operation in December 2012.

All required construction permits will be obtained prior to the initiation of construction. Access roads for PWP I and much of PWP II are anticipated to be constructed during July and August of 2011. All other pertinent structures for PWP I (substation, O&M building, tower foundations, etc) will be built between mid-July and mid-October, 2011. Additional road construction necessary for PWP II will be completed in July and August 2012 with turbine erection and the construction of related infrastructure completed for PWP II between mid-July and mid-October of 2012.

CONSTRUCTION AND OPERATION WORKFORCE REQUIREMENTS

The workforce is anticipated to involve up to 168 workers in more than 20 different trades during the peak construction period of PWP I and up to 145 workers during peak construction period of PWP II.

communities of Glenrock, Douglas and Rolling Hills and the Natrona County communities of Casper, Evansville, Mills and Bar Nunn (see Figure 5-3). WWI also recommends that Glenrock, Douglas, Rolling Hills, Casper, Evansville, Bar Nunn and Mills be designated as local governments primarily affected by the proposed Projects.

Local communities and the state will realize benefits from the Projects, including short-term and long-term jobs, support for businesses through spending on goods and services, local and state tax revenues, and expansion of renewable energy generation in the region. Total projected revenues generated by the proposed Projects during construction and the for the first 10 years of operation, derived by summing the projected tax revenues, would be between $10.7 million and $17.2 million. The range reflects the uncertainties associated with the future assessments for ad valorem tax purposes and the actual annual electrical output delivered to the grid. These revenues represent fiscal benefits that would accrue to public entities in conjunction with the project. Revenue accrual would continue beyond 10 years, particularly revenues derived from the wind energy tax. Increases in public expenditures would offset some of the revenues, but such expenditures would likely be minor due to the limited incremental demands on public facilities and services from the Project. Other economic benefits of the Projects will include land lease revenues to private landowners.

Due to the relatively small size of the construction workforce and the fact that there would be two separate projects separated by six months, the Projects are expected to place limited demands on emergency response, fire suppression, law enforcement, emergency medical care, and other local government services. Similarly, the Projects are not anticipated to substantially affect water, wastewater, or other public infrastructure in affected communities.

ENVIRONMENTAL IMPACT ANALYSES

WWI has reviewed existing data and is in the process of conducting its own detailed wildlife studies and habitat evaluations in the project area. Wildlife studies were initiated in February 2010 and will continue for two years. Wildlife monitoring will then continue for three years after completion of construction. Cultural resource surveys were completed in mid-November 2010. Resource analyses pertaining to soils and geology, wetlands and other waters of the U.S., as well as other studies have been completed to document and characterize baseline conditions of the project area and to assess potential Project-related

effects. These assessments have allowed WWI to site WTGs and other project facilities in areas that will avoid or minimize the potential for environmental resource impacts.

The Projects are located outside the Greater Sage-Grouse Core Areas identified in the Governor's Executive Order 2010-4. A portion of PWP I is located in WGFD-designated crucial winter range for mule deer but due to the relatively high elevation of this area and the associated lack of winter mule deer use, this has not been identified as a major concern by the WGFD. Nonetheless, PWP I, LLC and PWP II, LLC will adhere to WGFD restrictions on timing of construction in this area. WWI has sited all project infrastructure and planned the proposed construction schedule to avoid or minimize potential impacts to wildlife resources. WWI continues to coordinate with WGFD regarding wildlife within the project area.

WWI has sited infrastructure to eliminate or minimize the risk of discharge of dredged or fill materials into stream channels and wetlands. Further micro-siting of the Projects' features during the final design phase will avoid or further reduce potential impacts to jurisdictional waters to the extent practicable. WWI has minimized the number of ephemeral stream crossings and, where complete avoidance is not practicable, PWP I, LLC and PWP II, LLC will obtain a Clean Water Act Section 404 permit and mitigate impacts to waters of the U.S. in accordance with that permit process. The nearest perennial water body to the two Projects is Willow Creek, which traverses the project area from west to east, separating PWP I and PWP II into two qualifying facilities under federal law. Willow Creek is located approximately 0.4 mile from the nearest PWP I WTG and 0.45 mile from the nearest PWP II WTG. Construction best management practices (BMPs) and micro-siting of the facilities are designed to minimize risk of erosion or discharge into the nearby streams and wetlands and no significant direct or indirect impact to fisheries and aquatic life resources are anticipated to occur during construction and/or operation of the Projects.

include land lease revenues to private landowners. There are also environmental benefits to be realized from operation of the proposed Projects and the ability of Wyoming to provide electrical energy necessary for economic growth and recruitment of technology and data centers. These benefits are described in the sections below.

1.3.1 Economic Benefits

The proposed Projects would result in economic and fiscal benefits for communities and local governments near the project area, for the State of Wyoming, and for the nation as a whole. These benefits would accrue in the form of PWP I and PWP II construction and operations employment and earnings. These earnings, in turn, lead to indirect and induced employment and earnings in communities near the Projects resulting from project and employee spending. Certain local governments would receive tax revenues from equipment and material purchases and construction and operations of the Projects, principally in the form of ad valorem taxes. Private landowners that have leased land to PWP I, LLC or PWP II, LLC would receive lease and royalty payments. State and local governments would also realize significant revenues from wind energy production taxes. Construction of the Projects therefore helps sustain essential elements of the region's construction industry. The Projects would also help sustain and support the emerging wind energy construction industry in the area. At the national level, the Projects contribute to the wind energy manufacturing industry and to an increase in renewable energy production capacity.

1.3.1.1 Employment and Personal Income

Average construction employment is projected at 96 workers for PWP I and 88 workers for PWP II; peak employment for each project is projected at 168 and 145 workers respectively. Construction of each project would require approximately six months. Based on the level of local hiring achieved by other wind energy projects in the area, the Projects have established a local hiring goal of at least 30 percent of the workforce over the course of construction.

Estimated wage and salary compensation for construction workers employed on the proposed Projects, including a 20 percent allowance for benefits, is expected to total $6,676,800.

Non-local EPC contractor(s) and subcontractor workers will receive housing, per diem and travel allowances. Based on the 30 percent local hire target and duration of on-site activity for the various tasks, an estimated $2,388,240 in such payments would be made during the construction phase of the project. Summing these two components yields total projected labor costs of $9,065,040 during construction.

Based on the prevailing wages and salaries in the industry and the anticipated level of employment, the annual payroll during operations would be approximately $450,000, including the employer-paid FICA, worker's compensation, and contributions to a comprehensive benefit package.

Development of PWP I and PWP II would generate an additional income stream for the ranching operations that own the land on which the WTGs and other project components would be located and for landowners of other lands leased to WWI. For ranchers, the income would be independent of livestock markets, feed and fuel costs or weather conditions, allowing the recipients more economic flexibility in conducting ranch operations, making improvements, and in some cases may help sustain the lands in agricultural use. Terms of individual leases are confidential; however, WWI anticipates that annual payments to all lessors would exceed $1.0 million at full production.

As described above, in addition to the direct, or basic, jobs associated with construction and operation of PWP I and PWP II, the Projects would also support a number of indirect and induced jobs in the region. Based on economic data for Wyoming and the construction of wind energy projects, the estimated numbers of such jobs are 48 during construction of PWP I and 40 during construction of PWP II.

Operations and maintenance expenditures in the local economy, along with the consumer expenditures of staff during operations of PWP I and PWP II would support an estimated five indirect and induced jobs elsewhere in the economy over the long-term. Future expenditures of the public sector revenues generated by the project would support additional indirect and induced jobs, many of which would be outside the study area, but the number of such jobs are not estimated as part of this analysis.

1.3.1.2 Fiscal Benefits

The major revenue sources associated with PWP I and PWP II would include local ad valorem (property) taxes on the value of the WTGs and ancillary facilities and state and local sales and use taxes on the

The distribution mechanism for the local share of these revenues has not been finalized, but it can be expected that a substantial share of the revenue would be distributed to the county where the power was generated, i.e., Converse County. It is, however, uncertain whether a share of the local revenue will flow through to municipalities. Table 1-1 presents estimated local and state tax revenues associated with the proposed Projects.

Table 1-1 Summary of Major Public Sector Revenues Generated by PWP I and PWP II.

Revenue Source	Projected Revenue	Revenues Distributed to:
Local ad valorem/property tax (including mandatory state levies)	$808,000 to $1,238,000 (2013) $61,000 to $145,000 (year 21)	County, local and statewide public education, special service districts. Glenrock, Douglas, and Casper benefit indirectly.
Sales and use tax	$3.39 million during construction Some ongoing revenues based on O&M	State general fund and local government, primarily Converse County, Douglas and Glenrock
Lodging Taxes	Approx. $18,500	Natrona and Converse counties
Wind energy production tax	$304,000 to $391,000 per year at full production	State general fund and local governments, likely to include Converse County

Local governments and other public entities would realize increases in charges for services, fees, and other taxes given the implementation of the Projects. Such revenues would be substantially lower in magnitude than those identified above, but could still be important to the specific entity involved.

8. The Projects' area is located in a sparsely populated, rural area—there are only 27 landowners with structures on their property within a five-mile radius of the project sites—thus minimizing disturbance to area residents.

2.4 NATURE AND LOCATION OF THE FACILITY

The proposed Projects are located in Converse County, Wyoming. The northern extent of the project area (the transmission interconnect location) is located approximately six miles south of Glenrock at an approximate elevation of 5,600 feet above mean sea level (amsl). PWP I is located approximately 10 miles south of Glenrock at elevations ranging from about 6,600 feet to 6,860 feet amsl, and PWP II is located approximately 12 miles south of Glenrock at elevations ranging from about 6,860 feet to 7,050 feet amsl. Refer to Map A-1R in Appendix 3 for the location of the project areas and to Table 2-1 for detailed information on the location of lease lands.

The main access to the Projects will be via Interstate 25 (located about seven miles north of PWP I), East Glenrock Interchange (Exit #160), Birch Street (State Highway 26) and Mormon Canyon Road (County Road 18), which heads southward from Glenrock and bisects the project area.

The project areas are located in a region known as "The Flats" by local residents and are characterized by gently rolling topography, open grasslands and sagebrush-dominated vegetation. There are two perennial streams in the vicinity of the Projects: Willow Creek separates PWP I and PWP II, and Virden Creek is located south of PWP II. The project area is largely undeveloped, mainly used for ranching and hunting and contains one open-pit rock quarry that covers approximately one quarter-acre.

2.5 POINT OF DELIVERY - GOODS AND SERVICES

The construction and operation of the Projects will result in the purchase of goods and services, both for the Project and for the needs of the associated construction and operations workforce. Goods and services procured for construction activities will be obtained from various local, regional, and national vendors. WWI anticipates that the majority of the Projects' components will be trucked to the project site and that Converse County will be the primary point of delivery for these components.

2.6 PRELIMINARY SITE PLAN

WWI has completed a preliminary site plan and has revised the preliminary site plan, detailing the WTG layout, location of the transmission line, access roads, the project switchyard (interconnect substation), collector substation and operations and maintenance (O&M) building, temporary and permanent parking areas, and the temporary concrete batch plant. All permanent and temporary facilities detailed in the site plan will be located at least 500 ft from perennial streams. The site plan is presented as Map A-2 in Appendix A. The revised site plan is presented as Map A-2R in Appendix 3.

2.7 LAND OWNERSHIP

The overall area under consideration for PWP I and PWP II consists of 28,867 acres of private fee lands, with the proposed facilities located on much smaller footprints within this area. Regarding the State Trust Lands, WWI has been working with the Office of State Lands and Investments (OSLI) to determine which parcels will be part of the final wind energy lease application. However, we recently decided not to place WTGs on State Lands and on March 28, 2011 we withdrew our pending lease application from OSLI.

No federal lands will be used for any infrastructure related to the proposed Projects. All leased lands occur in Converse County. Table 2-1 provides the legal description of leased private lands in and around the project area. As noted above, a relatively small portion of these lands is proposed for wind energy development at this time. The proposed development site for PWP I comprises approximately 3,061 acres and the PWP II site comprises approximately 7,158 acres of leased private lands. Map A-3R in Appendix 3 shows land ownership (private, state, BLM) within the project area.

Table 2-1 (Continued)

Township	Range	Section	Description
31 North	76 West	21	N/2, SE/4, E/2SW/4, SW/4SW/4
31 North	76 West	22	ALL
31 North	76 West	23	N/2NW/4, E/2
31 North	76 West	24	ALL
31 North	76 West	26	N/2, N/2S/2, SW/4SW/4, SE/4SE/4
31 North	76 West	27	ALL
31 North	76 West	28	ALL
Transmission Line Corridor			
32 North	76 West	1	Lots 5, 6, 7 and 8, SW/4NW/4, SE/4NW/4, SW/4
32 North	76 West	11	Lots 1 and 2, S/2SW/4, S/2NE/4, SE/4
32 North	76 West	12	N/2NW/4, SW/4NW/4, NW/4SW/4, S/2SW/4
32 North	76 West	13	Lots 2 and 3, NW/4NW/4, S/2NW/4, SW/4, NW/4SE/4, SW/4SE/4
32 North	76 West	14	N/2, SE/4, N/2SW/4, SW/4SW/4
32 North	76 West	23	Lots 1 and 2
32 North	76 West	24	Lots 2 and 3

2.7.1 Mineral Ownership

Within the proposed PWP I and PWP II project sites and the transmission line corridor, as well as within the revised site layout, we were able to readily obtain the identity and current addresses of two mineral owners from publicly available documents. First-class certified letters providing notice of WWI's intent to construct a wind farm were sent to these two mineral rights holders. This letter provided a general description of the proposed Projects, a legal description of the areas in which the Projects are located, and the name and phone number of a WWI representative to contact for additional information. No other readily obtainable identities were available from the instruments examined and therefore remaining mineral interest owners were notified pursuant to the regulations set forth in Wyoming Statute 35-12-105 (f). Legal notices were published in two local newspapers: the Glenrock Independent (notices appeared on November 18 and December 2, 2010) and the Douglas Budget (notices appeared on November 17 and December 1, 2010). Refer to Appendix B for copies of the notification letters, legal notices and a list of mineral rights holders.

2.8 PROJECT DESCRIPTIONS AND FUTURE MODIFICATIONS

Pioneer Wind Park I and Pioneer Wind Park II are owned by Pioneer Wind Park I, LLC and Pioneer Wind Park II, LLC, respectively. Both are wholly owned affiliates of WWI and hold all the respective assets, permits, supply agreements, and power purchase agreements for the Projects. The size of each project is 49.6 MW. PWP I will entail the construction of 31 WTGs during the 3rd and 4th quarters of 2011. PWP II will consist of another 31 WTGs to be constructed in the 3rd and 4th quarters of 2012. These two Projects correspond with the two *Public Utilities Regulatory Policy Act* (PURPA) qualifying facilities (QFs) identified in PWP I, LLC and PWP II, LLC's power purchase agreements with PacifiCorp-Rocky Mountain Power.

WWI currently has no plans to add additional phases or modify the proposed facilities. If proposed, any future projects would be subject to their own County and ISA permit processes.

2.9 WIND ENERGY FACILITY COMPONENTS

Facilities and related infrastructure associated with the proposed Projects will include WTGs mounted on steel tubular towers, pad-mounted transformers, buried power collection electrical systems and fiber optic communications cables. Access roads, meteorological (met) towers, a supervisory control and data acquisition (SCADA) system, and an operations and maintenance (O&M) building will also be

constructed. A single substation serving both Projects will be constructed onsite. An approximately 6.5 mile-long 230 kV transmission line will extend north-northwest from this substation to an electrical switchyard where it will interconnect with Rocky Mountain Power's existing 230 kV transmission line, which extends southwest from the Dave Johnston Power Plant.

2.9.1 Wind Turbine Generators

The Projects will each install and erect 31 GE 1.6-MW xle WTGs. The GE 1.6xle is a three-blade, active yaw and pitch, regulated machine with power and torque control capabilities. The rotor diameter is 270.7 ft (82.5m), the height at the hub is expected to be 262.4 ft (80 m) (see Figure 2-1). The rotor-swept area is 6,393 yd2 (5,345 m^2) and the rotor typically operates at up to 20 revolutions per minute (rpm). The WTG will start to operate when the 10-minute average wind speed is 7.8 miles per hour (mph). To minimize strain on the turbine blades and gear box and other turbine components, the WTG will stop operating when the 10-minute average wind speed is 55.9 mph or greater.

The WTGs will be mounted on a poured-concrete spread-foot foundation. They will be spaced at distances generally ranging from two and a half to four rotor diameters between WTGs within a turbine row, and at least eight rotor diameters between turbine rows, depending on the characteristics of the specific turbine location. Refer to Appendix 3 for a map of the revised proposed site plan and revised preliminary turbine layout.

2.9.1.1 Rotor Blades

The rotor for a GE wind turbine is made of three high-tech blades, made of laminated materials such as composites, balsa wood, carbon fiber, and fiberglass that have high strength-to-weight ratios. The rotors are bolted on the central hub, and a pitch mechanism allows the blade to rotate on its axis to take advantage of different wind speeds. The blades are shaped like an airplane wing or airfoil. As a result, wind creates lift on the blades causing the rotor hub to spin. This rotation is transferred to a gearbox where the speed of rotation is increased to the speed required for the attached electric generator that is housed in the nacelle. The blades are non-metallic and equipped with a sophisticated lightning protection system.

2.9.1.4 Transformer

A pad-mounted step-up transformer will be installed at the base of each WTG to increase the output voltage to the level of the power collection system (34.5 kV). A small concrete slab or fiberglass foundation, a concrete vault, or other suitable base will be used to support the step-up transformers.

2.9.1.5 Foundations

The tower for the WTG will be set on a poured-in-place spread-foot concrete foundation. The actual foundation design for each WTG turbine will be determined based on site-specific geotechnical information and structural loading requirements of the turbine model.

2.9.1.6 Aviation Lighting System

The WTGs will be grouped in arrays, and some of the WTGs will require FAA-mandated aviation warning lights. The number of WTGs with lights and the lighting pattern of the WTGs will be determined through consultation with the FAA prior to construction.

WWI is committed to minimizing visual impacts caused by the aviation warning lights located at the top of WTGs. Consequently, PWP I, LLC and PWP II, LLC intend to install a radar-based obstruction lighting control system that, pending FAA approval, will allow PWP I, LLC and PWP II, LLC aviation warning lights to remain off until triggered by the system when a low-flying aircraft is detected and determined to be tracking on an unsafe heading. As the aviation warning lights are only activated by this activity, this system leaves the nighttime sky free of unnecessary light pollution, thus minimizing visual impacts and associated public nuisance issues.

2.9.2 Power Collection System

A network of collection power cables will be installed along and between the turbine strings to collect power generated by the individual wind turbines, transform the power to 34.5 kV, and route it to the collector substation. Collection power cables will be buried wherever possible at a minimum of four feet below the ground surface. The collector substation, located on the PWP II site, will convert the electricity

to transmission voltage (230 kV) for delivery into the interconnection substation or switchyard and then to the electrical grid.

The Project electrical system will therefore consist of three key elements:

1. A collector system that collects energy generated at 690 volts from each WTG, transforms it to 34.5 kV through a pad-mounted transformer, and delivers the power through a network of electrical conductors.
2. A collector substation that transforms energy delivered by the collector system from 34.5 kV to 230 kV.
3. A 230 kV transmission line, which delivers the electricity and interconnects to the Rocky Mountain Power transmission line.

2.9.3 SCADA System

A supervisory control and data acquisition (SCADA) system will be installed to collect operating and performance data from each WTG and provide remote monitoring and operation of the WTGs when appropriate. The WTGs will be linked to one or more central computers via a fiber optic network installed in the electrical collector line trenches, at least four feet below the ground surface. The host computer(s) is expected to be located in the substation building control room in the PWP II project site. The SCADA software will consist of applications developed by the turbine vendor and/or a third party SCADA vendor.

2.9.4 Meteorological Towers

Two permanent meteorological (met) towers will be constructed within the boundary of the project sites for the purpose of collecting meteorological data and forecasting conditions. Preliminary locations for the permanent met towers are shown on the site plan in Appendix A. The final location of the met towers will be determined in consultation with the WTG vendor.

2.9.5 Operations and Maintenance Buildings

An O&M building will be constructed within the Projects' boundaries. The O&M building will be approximately 5,000 ft^2 and will include space for offices, bathroom and kitchen facilities, a break room,

turbine components have been brought to the site, the first step will be to lift and secure the down-tower electrical assembly and secure it to the foundation. The base section of the tower will be installed over this equipment. The mid tower section will be connected to the base tower section, and the top tower section will be connected to the mid tower section. Once the nacelle is placed on the top of the newly constructed tower, the three blades will be bolted to the rotor hub, lifted by a construction crane, and connected to the main shaft of the turbine nacelle.

3.5.5 Power Collection System

Power generated by the individual turbines will be transformed to 34.5 kilovolts (kV) via the pad-mounted transformer located adjacent to each turbine, and collected through a buried cable network located along and between the turbine arrays. The electricity will be then be routed to the collector substation located within the PWP II project site (Appendix 3, Map A-2R). The transformer located within the collector substation will convert the electricity to transmission voltage (230 kV) for delivery to a newly-built interconnection substation located on privately leased land in the northernmost portion of the project site. This facility will be designed and constructed according to utility design requirements, and at this point, power generated by the projects will enter the electrical grid.

3.5.5.1 Collector Systems

The collector system will be underground unless site-specific considerations require a portion of it to be aboveground. For example, it is anticipated that the collector system connecting PWP II to the project substation in PWP I will be bored under Willow Creek. If, for some reason, boring this line beneath the creek is not feasible or environmental impacts could be reduced by having the cables cross Willow Creek via overhead lines, the system may be located above ground in this area.

The collector cable and surrounding insulation jacket is expected to be less than three inches in diameter. The power cable between WTGs in a turbine string will be stranded metal. The cables connecting each string in PWP I to the collector substation and connecting PWP II to the substation will use a larger gauge stranded metal conductor.

The underground electrical and communication cables will be installed adjacent to access roads where possible. Trenching for this purpose involves excavating a three-foot to five-foot-wide and four-foot-

deep (minimum) trench. Topsoil will be segregated from subsurface soil into separate stockpiles. After the cables are buried, the trenches are backfilled with the remainder of the subsurface soil pile, covered with topsoil, graded and restored to the original contours, and reseeded with a reclamation seed mixture.

Trenching typically involves specialized equipment, which effectively excavates the soil at the front and simultaneously lays the cable(s) at the back, disturbing only a several-inch-wide strip of surface soil. Selection of the installation method is dependent on site-specific factors such as soil type, contractor and equipment availability and manufacturer's installation specifications.

A generator step-up (GSU) transformer will be installed immediately adjacent to the base of each wind turbine, to increase the output voltage of the turbine to the voltage of the power collection system (34.5 kV). The transformer will be encased in a four-foot by four-foot by four-foot steel box, and will utilize non-polychlorinated biphenyl mineral oil as coolant. Support for the transformers is expected to be a fiberglass vault, excavated below grade, and will serve as a containment system in the event of malfunction and any associated mineral oil leakage.

3.5.5.2 Collector Substation

Electrical output from the Projects will be delivered to a 34.5 kV/230 kV collector substation located in the northern portion of PWP II (please refer to Map A-2R for the anticipated location of this substation).

The collector substation facilities will occupy approximately two acres within a larger cleared area of approximately six acres, two acres of which will be reclaimed and revegetated following construction. The substation site will be cleared, graded, and graveled, with erosion and sedimentation (E&S) measures installed as required. Transformer pads, oil spill containment structures, and their foundations will be excavated, forms and grounding grid set, rebar installed, and the concrete poured and cured to create the foundation. Backfilled soil will be graded and compacted, and any excess soil will be distributed about the site. The two-acre substation site will be surrounded by an additional two acres of gravel and enclosed within a chain-link fence to secure access only for authorized personnel. The transformers will be oil-cooled and insulated. The substation equipment will include circuit breakers, power transformer(s), bus and insulators, disconnect switches, relaying equipment, battery and charger, surge arrestors, alternating current and direct current (AC/DC) supplies, a single-room control building, metering

equipment, Supervisory Control and Data Acquisition (SCADA) system, grounding and associated control wiring.

Electrical components and associated equipment will be transported to the site and installed with appropriate construction equipment. The collector substation facilities will conform to all applicable state and national codes and standards and will be inspected and approved during substation commissioning.

3.5.5.3 230 kV Transmission Lines

The WTGs for the Projects are grouped into strings or arrays and interconnected with an underground power collection system, which transfers generated electricity to the collector substation. The collector substation will be connected to the local transmission grid via a proposed 230 kV transmission line. The planned route for this overhead transmission line extends northward approximately 6.5 miles from the collector substation (located in PWP II), crossing leased private land within the project area to the transmission interconnection substation (please refer to Map A-2R for an illustration of the proposed alignment). PWP I, LLC will own and operate the 230 kV transmission interconnection line.

3.5.5.4 Interconnection Substation/Switchyard

The Projects' transmission line will terminate at the interconnection substation, or switchyard, located on the northern boundary of the project area where it is traversed by PacifiCorp's existing Dave Johnston - Difficulty 230 kV transmission line. PWP I, LLC and PWP II, LLC will construct this switchyard in conformance with PacifiCorp's specifications, which have been identified in a Facilities Study completed as part of the draft Large-Generator Interconnection Agreement (LGIA) between PacifiCorp and PWP I and PWP II. WWI anticipates that the final LGIAs for the Projects will be executed by Fall, 2011.

Construction methods and equipment are similar to those described for the collector substation described above. Major equipment at the switchyard includes a 28 foot by 40 foot control building, circuit breakers, vertical structures, surge arresters, metering units, and other equipment designed to accept power generated by the Projects while ensuring the safety and reliability of the electrical grid. The interconnection substation will also be linked to the collector substation via a fiber optic communications line, which will be used to operate line protection systems and to communicate status and loading information back to PacifiCorp's energy control center. The switchyard will also contain a microwave

communication system with a tower sufficient for communications to the Glenrock communications site. Although funded and constructed by PWP I, LLC and PWP II, LLC, the switchyard will become PacifiCorp property.

3.5.5.5 Communication Cables

Fiber optic communication cables will be connected to each of the WTGs and located underground alongside the electrical collector system lines. Communication cables will allow individual WTGs to supply data to and be controlled by the SCADA system (see Section 3.6.7 below) in real time.

3.5.6 Meteorological Towers

Two 262-foot (80 m) permanent meteorological (met) towers are proposed to be placed within the project area, one on the PWP I project site and one on the PWP II project site. Preliminary locations for these met towers are shown on Map A-2R. Permanent met towers are to be lattice structures with concrete foundations and no guy wires. The towers are to be lighted per Federal Aviation Administration (FAA) guidance and the final locations determined in consultation with GE at the beginning of the construction period for each Project.

3.5.7 SCADA

An industry-standard Supervisory Control and Data Acquisition (SCADA) system will be installed to collect operating and performance data from each WTG and each wind park as a whole. The SCADA also provides for remote operation of the WTGs. The WTGs are connected to the SCADA system via a fiber optic network. Fiber optic cables will be placed alongside the power collector cables, and installed four feet below grade. The SCADA host computer is located on site in the O&M building. Software for the SCADA system will consist of applications developed by the turbine vendor or a third-party SCADA vendor.

3.5.8 Turbine Commissioning and Testing

After all WTGs are erected and the electrical collection systems are interconnected, all associated systems, controls, and safety equipment will be calibrated and tested. Qualified technicians, as well and

Table 3-5 (Continued)

Jurisdiction	Permit/Decision	Status/Agent
Wyoming Department of Environmental Quality (continued)	General Permit for Temporary Discharge	Pending final design/EPC will file before construction begins
	Permit to Construct Small Wastewater Facilities (Septic Tanks and Leach fields)	Pending final design, depending on size of septic tank needed for O&M Building/EPC will file prior to construction
	Section 401 Water Quality Certification	Pending final design/WWI will file in conjunction with 404 permit, if needed
	Air Quality Division - Temporary / Portable Source Air Permit	Pending final design/EPC or subcontractor will file before construction begins
	Water Quality Division - Temporary Increase in Turbidity Permit	Pending final design; permit review in conjunction with CWA 404 permit and 401 certification processes/WWI will file prior to construction, if and as necessary
	General Permit for Wetland Mitigation	Pending final design/WWI will file if and as needed before construction begins
Wyoming Department of Transportation	Right-of-Way Encroachment for collector line crossing of Mormon Canyon Road	Pending final design/WWI will file prior to construction.
	Port of Entry Permit for Oversized/Overweight Loads	Pending final design/Prior to construction when turbine delivery schedule is finalized.
	Road Use Agreement	Pending final design/Prior to construction when turbine delivery schedule is finalized.
Wyoming Office of State Lands and Investments	Non-Roadway Easement Permit and Temporary Use Permit	Pending final design/WWI will submit permit applications in 2011 and go before State Board of Land Commissioners prior to construction.
Local		
Converse County	Road Use Agreement	Negotiations pending/PWPI, LLC and PWP II, LLC will execute prior to construction
	Wind Energy Conversion System (WECS) Use Permit	Application in progress/WWI intends to submit in February 2011

Plan (page 5 of the Coordinated Resource Management Plan for the Duncan Ranch, dated June 7, 2007 - http://slf-web.state.wy.us/webboard/0607/finalduncanranchcrmplan.pdf). After doing so, WWI heard from several in the community who expressed concerns about wind energy development on the Duncan Ranch, leading WWI to withdraw those 4,092 acres from its lease application with the Office of State Lands and from consideration for wind energy development out of deference to these expressed community concerns.

- WWI abandoned consideration of lands south of the current project locations due to concerns voiced by the community. In doing so, WWI released 880 acres of private lands that were leased in that area and any acreage that it had applied to lease with the Office of State Lands and Investments.

A second concern of several members of the community is the potential effect on property values due to the proximity of the wind farm. Although the most recent and comprehensive scientific study to date conducted about property values and wind farms shows that neither proximity to nor views of wind farms is found to have any consistent, measurable, and statistically significant effect on home sale prices, [1] WWI is working diligently to address the concerns of those who will live in close proximity to the projects. WWI has conducted a viewshed analysis to examine whether those concerned will be able to see the Projects from their homes. There are a total of 27 landowners with structures on their property within 5 miles of the turbine boundary. Of those 27 landowners, 8 are landowners participating in the Pioneer Wind Park projects. Therefore, there are 19 non-participating landowners' homes within 5 miles of the turbine boundaries for Pioneer Wind Park I and II. The closest non-participating landowner's home is located approximately 1.1 miles from the nearest proposed turbine. WWI has met with several of the landowners who have expressed concerns and will continue to meet with those concerned about property values in the coming months.

A third concern of some in the area is the loss in character of the curvy narrow roads in the area if the roads are used to transport wind farm infrastructure and therefore need to be straightened and improved. Boxelder Road was initially considered for infrastructure transport and seems to be the most traveled road

[1] (December 2009, Ernest Orlando Lawrence Berkeley National Laboratory - http://eetd.lbl.gov/ea/ems/reports/lbnl-2829e.pdf),

The description of the Agricultural Lands category in the LUP is: "Lands, which because of their resource value, e.g. agriculture, non-traditional agriculture use, recreation, and extraction, are encouraged to remain undeveloped."

The LUP Criteria for Allocation of these lands is:

- "Land not suitable for urban development because of slope, soil limitations, hydrologic and geologic hazards,
- Protect areas of important natural resource production and extraction, i.e. agriculture, forestry, recreation and mineral extraction,
- Development of agricultural activity with the usual associated uses should be encouraged with in these areas."

As discussed in the following section, construction and operation of the proposed PWP I and PWP II will not alter the current land use category as agriculture and other current uses of lands within the project areas would continue at the discretion of the individual landowners.

Although some land within the PWP I and PWP II project sites is used for cultivation of hay, grazing and other associated activities (weaning, pregnancy testing, fall shipping, etc.) are the only agricultural uses on the private lands where development or proposed infrastructure will occur in PWP I and PWP II. The proposed PWP I and II project lands are grazed by four ranching operations. Both ranches rotate cattle through the lands in and near the two project areas during the midsummer to mid-fall period as part of their grazing management programs that also involve other lands.

Construction and operations of PWP I and PWP II would affect grazing in two ways. First, construction activity and traffic would require more intensive herd management during active construction seasons. Ranch managers will meet with PWP I, LLC and PWP II, LLC and EPC contractor officials prior to the initiation of construction to review construction locations and activities and determine if they will be able to continue to graze cattle within the PWP I and II project sites or will need to secure alternative pastures during that season. Once the Projects become operational, it is anticipated that grazing activities would be minimally affected by project operations and maintenance activities.

Second, a limited amount of forage - relative to the total amount of possible forage material within the entire area of the two Projects - would be removed from production during construction. During project construction, an estimated 362 acres of forage (1.5 percent of the project area) would be unavailable for production. As construction sites are reclaimed after construction, an estimated 244 acres (0.5 percent of the project area) would be returned to production for a permanent disturbance of 118 acres. Ranchers may be required to manage herds to avoid reclaimed areas until the reseeded forage becomes mature. As noted above, the 118 acres ultimately removed from production is a relatively small area compared to the total 10,219 acres within the two project sites.

The leases between the affected landowners and PWP I, LLC PWP II, LLC include provisions regarding the continued use of lands for grazing purposes, therefore no unmitigated effects on grazing operations are anticipated (DeGraeve 2010, Grant 2010).

Development of PWP I and PWP II would generate an additional income stream for the ranching operations on which the WTGs would be located and for landowners of other lands leased to PWP I, LLC and PWP II, LLC.

The income streams associated with wind energy project leases typically include an initial payment and recurrent annual rents and/or fees. Some owners of leased lands would receive a basic fixed sum, often with adjustments for inflation, others would receive amounts tied to the installed generated capacity and quantity of electricity generated. Terms of individual leases are confidential, however, WWI anticipates that at full production payments to all lessors would exceed $1.0 million annually from the two Projects.

A potential beneficial effect on agriculture production associated with development and operations of the two Projects is that landowners who have lands leased both within the proposed PWP I and PWP II project sites and adjacent lands would receive income that would not be dependent on livestock markets, feed and fuel costs or weather conditions. This additional income stream would allow the affected ranchers more economic flexibility in improving ranch operations and in some cases, continuing the lands' use for agricultural purposes.

Construction traffic has the potential to affect grazing operations in open range areas along access routes to the PWP I and II project sites. Effects could include damage to grazing improvements such as cattle guards and fences, livestock injury or mortality associated with vehicle/livestock collisions and reduced

modern wind turbines rarely emit pure tones. Thus, the model approximates a worst-case scenario for noise generation.

Each wind turbine was considered to be a point source of noise at the hub height with an overall sound power level of 106 dBA at a wind speed of 22.4 mph (10 m/s). This sound power level represents the noise level of the turbine when it is operating at 95% of its rated power.

The expected sound levels resulting from the revised turbine layout are depicted in the revised Noise Map (Appendix 3, Map F-1R). With all of the turbines operating at a wind speed of 22.4 mph, the predicted sound level outside of the closest participating landowner residence is 44.9 dBA and outside of the closest non-participating landowner residence, it is 37.7 dBA. Therefore, the sound levels would be less inside of the residence. Such levels would likely be unnoticeable at these residences. As indicated in Map F-1R, the anticipated noise level decreases with increasing distance from the Projects. Under calmer turbine wind conditions, the turbines emit less noise and the expected levels would be less than those described above or depicted on the map. Under higher wind conditions, much of the sound emitted by the turbines would be drowned out by the noise created by the wind itself.

6.4 GEOLOGY AND SOILS

Geologic and soils data were reviewed from openly available government documents, publications and internet databases produced by the Wyoming State Geological Survey, the United States Geological Survey, and the Natural Resources Conservation Service. Existing information on bedrock lithology, surficial lithology, soil characteristics, and hazards (earthquake, landslides, mining, and oil/gas) was available for much of the project areas. This information was supplemented with the results of a preliminary geotechnical investigation carried out on the proposed PWP I and PWP II project sites.

The preliminary geotechnical investigation revealed basic information about site-specific bedrock and surficial lithologic characteristics as well as soil data. The investigation also revealed basic subsurface conditions. This investigation included conducting soil borings at numerous areas within the project areas and laboratory testing of soils and rock. This information was used in the preliminary design of crane pads, foundations and access roads within the PWP I and PWP II areas.

(obtained from the turbine manufacturer) includes extreme normal operating loads, required foundation stiffness and other design criteria used for final foundation design.

Seismic considerations consist of evaluating the site with respect to anticipated maximum earthquake ground motions and the resulting seismic loading on the turbine. Seismic design values are based on the engineering properties of the upper 100 ft of the subsurface soils and rock, and also the short- and long-period spectral response acceleration as a percentage of gravity.

Geotechnical investigations have been initiated for the proposed PWP I turbine layout to determine the proper foundation for each turbine location. Geotechnical investigations for PWP II will likely be initiated in Fall of 2011. Proper engineering design will be used for all Project facilities. No impacts associated with geologic hazards such as seismic events, settlement, or landslides that would substantially impair the health, safety, or welfare of inhabitants or expected inhabitants are anticipated to occur as a result of Project construction. Implementation of best management practices (BMPs) during construction will ensure that soil disturbance does not result in levels of erosion and sedimentation that would pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the affected area.

6.4.7 Operation Impacts

Best Management Practices put in place during construction will ensure that activities carried out during operations will minimize soil erosion and prevent stream sedimentation. Standard dust control practices will be used to minimize fugitive dust generation and attendant wind erosion during operations. Roads and culverts will be upgraded during construction and maintained during operations to prevent sedimentation to creeks or other waterways. Impacts to geology and soils during the operational phase of the projects will be negligible.

6.5 WATER SUPPLY: YIELD AND ANALYSIS

6.5.1 Regulatory Jurisdiction

If an applicant for an Industrial Siting Permit plans to construct a facility that will use more than 800 acre-feet (ac-ft) (260.7 million gallons) of water per year, the applicant must submit a water supply and water

potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce" (33 CFR 328.3). Perennial and many intermittent tributaries to traditionally navigable waters like the North Platte are considered jurisdictional. Ephemeral streams that do not flow for an entire season and are without a defined bed and bank are generally considered to not be jurisdictional.

WTGs, substations, and the O&M building will be sited in uplands to avoid impacts to wetland resources. Mormon Canyon Road and other access roads in the project area cross over or run alongside perennial and intermittent drainages. Several of these crossings are in poor condition and will need to be upgraded prior to the construction of the two Projects to ensure that construction activities do not contribute to the existing levels of erosion and sedimentation in these waterways. PWP I LLC and PWP II, LLC will apply for a CWA Section 404 permit and a WDEQ-WQD Temporary Increase in Turbidity permit, as required for proposed improvements to existing or new access roads within the two project sites. As part of the 404 permitting process, a formal wetland determination and delineation would be conducted in accordance with USACE protocols for wetlands with potential to be affected by construction.

6.7.5 Construction Impacts

To the extent possible, construction vehicles will use Mormon Canyon road and existing dirt roads to access WTG locations and other project facilities. As described above, some of the existing culverted stream crossings along Mormon Canyon road are in unsatisfactory condition and will likely be replaced during construction or otherwise in conformance with PWP I, LLC and PWP II, LLC's pending Road Use Agreement with Converse County. Measures to improve these existing stream crossings and avoid or minimize the discharge of dredged and fill materials into wetlands and other waters of the U.S. will be incorporated into the final site plan and implemented during construction.

Map F-6R in Appendix 3 shows that WTG access roads have avoided crossing perennial and intermittent drainages wherever possible Prior to completing the final access road layout and design, any access routes or collector lines that cross or are located immediately adjacent to streams or stream beds will be surveyed for wetlands and other waters of the U.S. Where practicable, crossing of or encroachment on these tributaries will be avoided in the final road design. Should road crossings or collector line crossings prove necessary, PWP I, LLC and/or PWP II, LLC will conduct a wetlands delineation and apply for the appropriate state and federal permits. Based on the preliminary site plan and

Table 6-11 Temporary and Permanent Disturbance to Vegetation in Study Area.

Vegetation Type	Baseline Acreage	Temporary Disturbance (ac)	Permanent Disturbance (ac)
Agriculture - Pasture/Hay	23.1	0.0	0.0
Aspen Woodland - Mixed Conifer Forest	809.6	0.7	0.0
Developed - Open Space	1.1	0.0	0.0
Dwarf Sagebrush Steppe	5,074.0	55.7	17.1
Foothill-Valley Grassland	2,145.1	52.5	18.0
Introduced Upland Vegetation	62.4	0.0	0.0
Mixed Grass Prairie	4,672.4	106.5	37.9
Montane Grassland and Mesic Meadow	19.1	0.0	0.0
Mountain Mahogany Woodland and Shrubland	1,494.7	19.5	5.8
Ponderosa Pine Woodland and Savanna	1,788.2	22.9	2.7
Riparian and Floodplain Systems	1,269.2	3.9	1.3
Sagebrush Steppe	6,469.4	100.3	35.3
Sparsely Vegetated	5.3	0.0	0.0
Grand Total	23,833.6	362.0	118.0

Note: Rounding errors may cause column totals to vary slightly from those calculated with one significant digit.
Source: WWI 2011.

6.8.4 Construction Impacts

Construction of the proposed projects will impact about 362 acres or 1.5% of the vegetation within the study area. Following construction, temporary use areas would be reclaimed and reseeded and permanent impacts would be reduced to about 118 acres, less than 0.5% of the study area. Acreages of temporary and permanent disturbance by vegetation type are summarized in Table 6-11, above. Based on the above, construction of the proposed Projects would not pose a threat of serious injury to rare plants or vegetation in the affected area.

6.8.5 Operations Impacts

There would be no on-going impacts to vegetation or rare plants during operation and maintenance of the proposed facilities.

subadults, and tadpoles in Willow Creek, Lone Tree Creek, and another unnamed tributary of Willow Creek to the north of Lone Tree Creek (within the PWP I project site). Willow Creek is a perennial stream. Lone Tree Creek and the other tributary are classified as intermittent streams but likely flowed for much of the year due to somewhat wetter than normal conditions.

6.9.4 Construction Impacts

6.9.4.1 Greater Sage Grouse

Potential construction-related impacts to Greater Sage-Grouse will be minimized by constructing outside of the sage-grouse lekking season (March 15 – May 15). Except for improvements to Mormon Canyon Road and two other existing dirt access roads, there will be no construction activities within a quarter-mile of the Morman Canyon Lek, located in the PWP I project site. Similarly, there will be no construction activities within a quarter-mile of the Virden Creek Lek and New Lek located in and adjacent to the PWP II site. The nearest construction activities to these leks will take place approximately 1.3 miles from the New Lek and 0.4 miles from the Virden Creek Lek. Thus, there will be little or no direct impact to sage-grouse leks in the project area.

Although direct impacts to any sage-grouse nests in the area will be avoided by clearing vegetation outside of the sage-grouse nesting season, the temporary loss of nearly 100 acres of sagebrush steppe habitat will reduce the amount of sage-grouse nesting and brood-rearing habitat within the project area. Disturbance associated with construction activities taking place during the summer and fall will likely cause sage-grouse to avoid the project sites while they are under construction, displacing individual birds and broods to other suitable habitats in the area.

Given that no construction activities are planned for the winter, there will be no construction-related impacts to sage-grouse wintering on the site.

6.9.4.2 Raptors

Raptors are not expected to be adversely affected by construction of the two proposed Projects. Out of the six inactive raptor nests found during the 2010 survey effort, only one of these (an American Kestrel nest) is located within 1,500 feet of the current proposed transmission line corridor and none are located within areas that would be cleared for construction of the transmission line or WTGs. Should any nests

be found along the transmission line corridor in 2011, no vegetation clearing will occur while the nest is active and, where feasible, the line will be rerouted to avoid nest removal.

Although construction will result in some habitat loss and construction activity may preclude raptors from hunting in the immediate vicinity of each of the Projects while they are under construction, these disturbances are not anticipated to pose a threat of serious injury to populations of migrating or resident raptors in the area.

6.9.4.3 Other Migratory Birds

Direct impacts to migratory birds that nest in the project area will be minimized by clearing vegetation along access roads, WTG locations and crane pads, the O&M building site, concrete batch plant site, and temporary parking and laydown areas outside of the avian breeding season. Consequently, construction of the Projects will have no direct impact on migratory bird nests or eggs. Although 362 acres of vegetation will be cleared during construction, and thereby rendered largely unsuitable as bird habitat, this areas represents just 1.5 percent of the habitat available within the study area. Consequently, the effects of this habitat loss on migratory birds is likely to be negligible.

Disturbance resulting from increased vehicle and heavy equipment traffic, human activity, and associated dust and noise will likely preclude most migratory birds species from nesting and foraging within the immediate vicinity of the two project sites while they are under construction. Given the prevalence of high quality, undisturbed habitats elsewhere in the study area and general vicinity, the temporary displacement of birds from the construction sites is not expected to cause substantive adverse impacts to these species.

6.9.4.4 Bats

With the exception of the transmission line corridor, the majority of proposed facilities would be located away from potential bat use areas such as forests, woodlands, and riparian areas (Appendix H). Potential impacts to tree-roosting bats resulting from tree removal along the transmission line corridor and a few of the northwestern-most WTG locations in PWP I will be minimized by clearing vegetation in the early spring and/or late fall when migratory bats are not present in the area. Furthermore, construction

activities will take place during daylight hours when bats are not active. Consequently, construction of the proposed Projects is expected to have minimal impacts on bats.

6.9.4.5 Small Mammals

Small mammals, particularly less mobile species, are likely to be adversely impacted by construction of the two Projects. Mice, voles, and other burrowing mammals such as gophers and ground squirrels are unlikely to be able avoid impacts from construction vehicle traffic, vegetation and topsoil clearing, road compaction, and excavation activities. Although individuals of these species could be lost during construction, given their prevalence in the landscape and high reproductive rate, these impacts are not likely to affect populations of small mammals in the study area or region.

6.9.4.6 Big Game

Located in the foothills, the majority of the study area comprises transitional range that is used by big game species primarily during migration between lowland winter range to the north and high-elevation summer range to the south. Given that no construction activity will take place in the spring, spring migration will not be affected by construction of the two Projects.

There is little big game use of the project area during the summer, so construction activities that take place during the summer months will have little effect on these species. Those individuals that are in the area are likely to simply avoid areas with construction activity and instead forage in riparian zones and upland habitats not affected by project construction.

Fall migration could be affected by project construction. Big game migrating northward through the study area are likely to avoid passing through areas with high levels of construction activity. It should be noted that WGFD's mapped mule deer migration route (Appendix 3, Map F-9R), passes through the PWP II site and the southeastern portion of the PWP I site. This route was not mapped based on site-specific information. Although mule deer do move through the area during spring and fall migration in the same general direction as the mapped route, they appear to do so in a dispersed fashion rather than along a narrow, defined pathway. Fall migrants that typically move through one of the two project sites will likely use other routes to access winter range during the single migration season

It should be noted that the number of bird fatalities at wind energy facilities is several orders of magnitude lower than the estimated impacts of other human-caused sources of bird mortality such as vehicles, buildings and windows, communication towers, pesticides, and feral and domestic cats (Erickson et al. 2001, Erickson et al. 2005). Consequently, current WTG-related bird mortality rates are unlikely to affect population trends of most North American songbirds (NAS 2007). Similarly, operation of the proposed Projects is unlikely to have a substantive effect on populations of songbirds and other migratory birds in the study area and region.

6.9.5.4 Bats

Bats are most prevalent in the study area during the late summer and early fall, which coincides with the migration period for most species. This is the period when bats are most likely to be impacted by operating WTGs. Recorded bat fatalities at wind farms tend to be considerably lower in the West than they area at eastern facilities. The only publicly available information on bat fatality rates in Wyoming is again from the Foote Creek Rim facility in Carbon County. Recorded bat fatalities at Foote Creek Rim have ranged from approximately 1 - 4 fatalities per MW per year, whereas sites in West Virginia and Tennessee have had documented fatality rates between 30 and 40 bats per MW per year (NWCC 2010). Bat mortality at the proposed Projects will be documented during post-construction monitoring. Because the site is largely non-forested and is not located adjacent to a major riparian corridor, bat mortality rates are expected to be lower than those observed at Foote Creek Rim. Nevertheless, if post-construction monitoring determines that bat mortality is a concern, suitable mitigation will be determined in consultation with WGFD and USFWS.

6.9.5.5 Small Mammals

O&M vehicle traffic and increased local and tourist traffic could result in a minor increase in incidental mortality of small mammals crossing PWP I and PWP II access roads. This level of mortality is not expected to be a substantive increase over existing levels. Operation of the proposed Projects is therefore unlikely to have any adverse effect on populations of small mammals within the two project sites.

6.9.5.6 Big Game

Project operations are expected to have little or no effect on big game use of the project sites. Following construction of the two Projects, approximately 244 acres of temporary use areas will be reclaimed and

revegetated, providing high quality forage for big game moving through and foraging in the area. Although approximately 118 acres will remain disturbed or developed, this loss of habitat comprises less than 0.5 percent of the study area and its effects on big game are likely to be negligible.

Similarly, there will be minimal activity on the project sites during operation. O&M activities are expected to cause only sporadic and incremental increases in traffic levels over current traffic volumes, though there could be an unquantifiable increase in traffic resulting from locals taking advantage of improved road conditions to drive the Mormon Canyon - Box Elder Canyon loop tour and tourists interested in viewing the Projects up close. Some big game species or individuals may avoid traversing through the project sites due to increased tourist traffic, O&M activities, and/or the operation of the WTGs themselves. Big game avoidance of the sites, should it occur, is not expected to have a substantial adverse effect on local populations of these species.

6.9.5.7 Reptiles & Amphibians

O&M vehicle traffic and increased local and tourist traffic could result in a minor increase in incidental mortality of reptiles and amphibians crossing PWP I and PWP II access roads. This level of mortality is not expected to be a substantive increase over existing levels. Operation of the proposed Projects is therefore unlikely to have any adverse effect on populations of reptiles and amphibians within the project sites.

6.10 FISHERIES

6.10.1 Regulatory Jurisdiction

The WGFD has primary jurisdiction over sport fisheries in the State of Wyoming. The USFWS has jurisdictional authority over threatened and endangered fish species, but there are no known federally listed fish species in the vicinity of the study area.

6.10.2 Area of Site Influence

For fisheries resources, the area of site influence comprises the intermittent and perennial streams within the study area (Appendix 3, Map F-6R).

The results of the WWI viewshed analysis are presented on Figure 6-1R. The analysis indicates areas where any portion of any of the proposed wind turbines up to blade tip at top dead center would be potentially visible. This analysis takes into account the role that topography plays in shielding or blocking views toward the wind turbines. Review of Figure 6-1R indicates that the projects will be visible from approximately 28% of the area within 10 miles of the projects' area for the identified wind turbine layout. However, it is important to note that the viewshed analysis did not take into account native vegetation such as trees or shrubs or the presence of buildings, which, depending on location and topography, can affect the outcome of the analysis. Therefore, in reality, the results of this analysis overestimate the amount of area from which the wind turbines could be visible due to number and location of trees and taller vegetation and/or buildings located in the line of sight between the observer and wind turbines within the project area.

6.11.2.2 Visual Simulation

The proposed two Projects' major features are described in Section 2.0, and their most visible features are the WTGs. WWI listened to community input about vantage points that local residents are most concerned with, including the town of Glenrock and Interstate 25 (I-25), and had visual simulations prepared from seven of these vantage points, known as key observation points (KOPs). KOPs from which views of the projects were assessed include: I-25/Deer Creek Road Off Ramp (KOP 1); Intersection of Box Elder and Mormon Canyon Roads (KOP 2); Rural Box Elder School (KOP 3); Deer Creek Community Hall (KOP 4); a point representing the Town of Glenrock taken from the Glenrock Recreation Center (KOP 5); Box Elder County Park (KOP 6); and a location near a group of cabins to the south of the project area (KOP 7). The locations of the seven KOPs are illustrated on Figure 6.1R. In addition, the locations of the seven KOPs were displayed at the community open house in Glenrock on November 9, 2010.

WWI chose the seven KOP's based on two primary considerations:

1) Community input - three KOPs were chosen based on input from community residents and local governing bodies who consistently asked whether the turbines would be visible. These included I-25, the Town of Glenrock and Box Elder County Park. The wind turbines are visible from the I-25 KOP but they were not visible from the Town of Glenrock and Box Elder County Park KOPs.

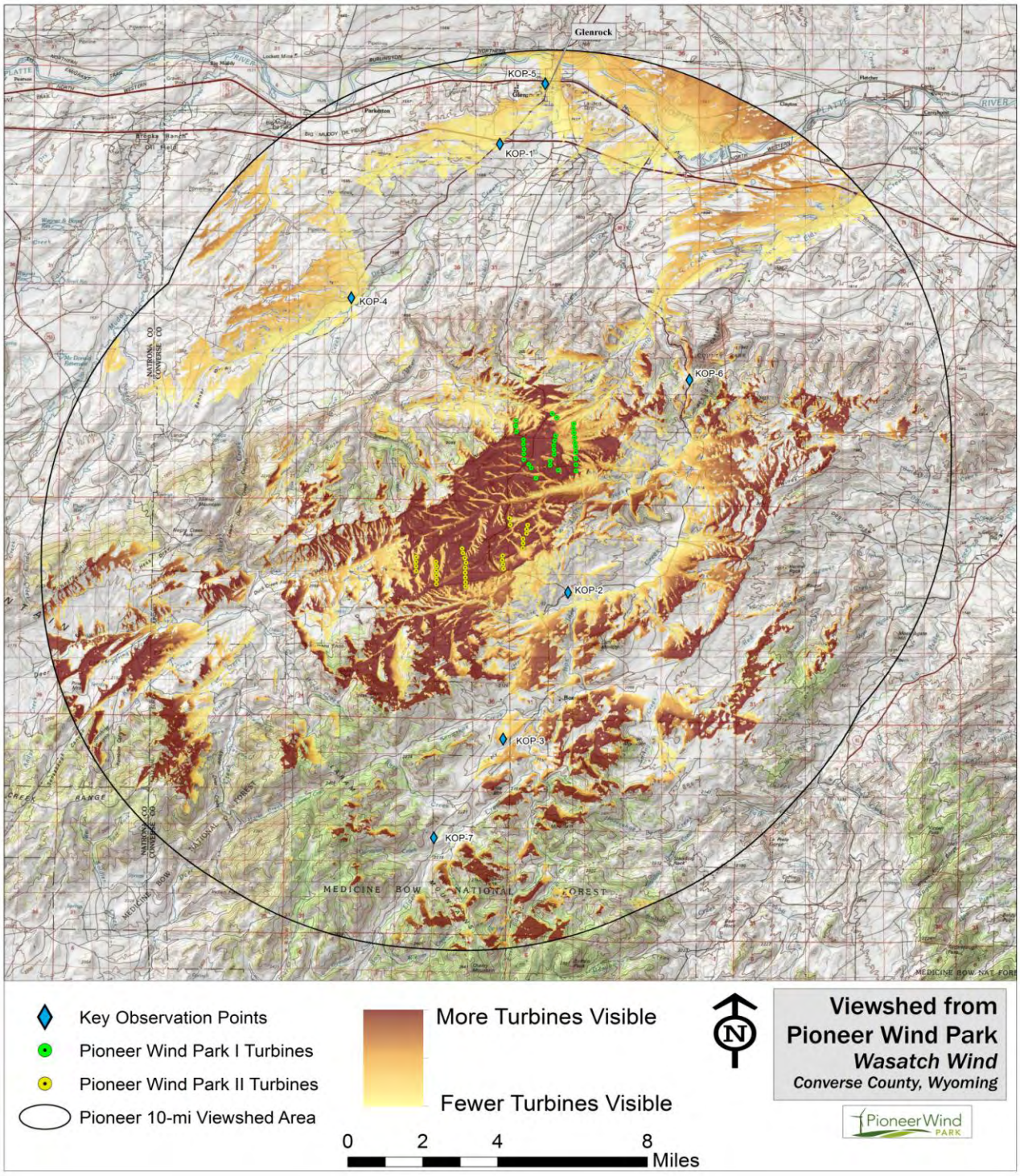

Figure 6-1R Results of Viewshed Analysis and KOP Locations, Pioneer Wind Park Project.

reference locations were used to assist with placement of the wind turbines within the photograph. Additionally, a terrain analysis using a digital elevation model of the project area was performed, and a 3-D model of the area was generated and used as an object for model refinement. Final adjustments to the placement of the wind turbines were made using the terrain analysis and the coordinates of the reference locations from each KOP using data collected with GPS equipment. The shading or color density of the simulated wind turbines is automatically adjusted by the software to account for the date and time that each photograph was taken. TRC's photosimulation specialist reviewed each photosimulation and made any necessary adjustments to placement and photographic rendering of the wind turbines.

The photographic results of the TRC visual simulations are presented below. Turbines will be visible from four KOPs (KOP 1-4), but from three of those four vantage points, the turbines will be barely visible. From the remaining three KOPs (KOPs 5, 6, and 7) no wind turbines will visible and photosimulations were not prepared. Figures 6-2, 6-4, 6-6, and 6-8 are the base photographs (without the wind turbines), and Figures 6-3, 6-5, 6-7, and 6-9 are the visual simulations, including the proposed wind turbines prepared by TRC. The photographs are paired together on the same page for easier comparison. Note that from KOP 2, turbines will be visible approximately 1.9 miles to the west-northwest. These turbines are outside the field of view of the photo taken from KOP 2.

6.11.2.3 Summary of Potential Impacts to Visual Resources

Based on the results of the viewshed analysis and photosimulations, it is likely that only a few of the proposed wind turbines would be visible from either Glenrock or I-25. The wind turbines that are shown on Figure 6-3 are located closest to Glenrock and I-25; however, these turbines will be located far enough south of the crest of closest ridge so that only the blades of two wind turbines will be visible from this location. In other words, natural terrain will hide most of the wind turbines and none of the wind turbines would be completely skylighted along the top or crest of the ridge. In addition, the town of Glenrock is approximately 9 miles away from the closest wind turbines, I-25 is approximately 7 miles away from the closest wind turbines, and the wind turbines will likely not attract a lot of attention from the casual observer. Therefore, as a result of distance and topographic masking (i.e., hiding), very few wind turbines would be visible to the majority of the public in Glenrock and on I-25 and only portions of those wind turbines would be visible.
In addition, the wind turbines associated with the PWP I and PWP II Projects will not impact the scenic resources in a majority of the viewshed area. Within the 10-mile viewshed, no wind turbines will be visible from 72% of the area and conversely wind turbines will be visible from only 28% of the area

Figure 6-2 KOP 1, I-25/Deer Creek Road Eastbound Off Ramp (Without Turbines).

Figure 6-3 – Revised KOP 1, I-25/Deer Creek Road Eastbound Off Ramp (With Turbines).

Figure 6-4 KOP 2, Intersection of Box Elder and Mormon Canyon Roads, Looking North (Without Turbines).

Figure 6-5-Revised KOP 2, Intersection of Box Elder and Mormon Canyon Roads, Looking North (Turbines visible from this KOP are outside the field of view of this photo).

Figure 6-6 KOP 3, Rural Box Elder School, Looking North (Without Turbines).

Figure 6-7-Revised KOP 3, Rural Box Elder School, Looking North (With Turbines).

Figure 6-8 KOP 4, Deer Creek Community Hall, Looking Southeast (Without Turbines).

Figure 6-9 – Revised KOP 4, Deer Creek Community Hall, Looking Southeast (With Turbines).

environment or to the social and economic condition of present or expected inhabitants in the area of site influence.

6.12 CULTURAL RESOURCES

6.12.1 Regulatory Jurisdiction

The *National Historic Preservation Act* (NHPA) is the principal federal law guiding the treatment of archaeological resources (including pre-historic and historic sites and artifacts) in actions authorized, funded, or carried out by federal agencies or located on federal lands. Given that there are no federal lands or permits required for construction of the proposed Projects, the NHPA does not apply. Similarly, there are no state laws specific to the protection of cultural resources on private lands. The ISA
(W.S. 35-12-109(a)(xiii)(C)) requires that Section 109 permit applications evaluate potential impacts to archaeological and historic resources.

6.12.2 Area of Site Influence

The area of site influence for cultural resources is limited to the footprint of the proposed facilities and temporary (construction-related) use areas. PWPLLC contracted with SWCA Environmental Consultants to conduct block surveys around proposed facility locations, which would allow PWPLLC to relocate facilities to avoid impacting cultural sites without requiring additional surveys. Refer to Appendix F, Map 10 for a depiction of the cultural resources survey area.

6.12.3 Cultural Resources in the Project Sites

In the fall of 2010, SWCA conducted a Class III inventory of 2,684 acres in two survey blocks corresponding with the two proposed project sites, a 6-acre block for the proposed interconnect substation, a 4.8-mile transmission corridor, and 2.75 miles of access roads. Additional cultural resources surveys were intiated on April 11, 2011. These surveys covered the new PWP I and PWP II turbine sites, project substation site, permanent met tower sites, associated access roads, and the portion of the transmission line route that had not been surveyed during the fall survey effort.

Seventeen sites and 34 isolated resources were newly recorded within the survey area. One of these sites is recommended eligible for nomination to the National Register of Historic Places (NRHP); six are recommended not eligible for the NRHP; and 10 remain unevaluated regarding NRHP eligibility. Refer to Appendix I for a detailed report describing the cultural history, results of the Class I archival literature review, inventory methods, and findings. Although detailed results are not yet available, cultural resources surveys conducted between April 11 and April 15, 2011, identified approximately ten features of which four may be of historical value. Two of these sites are rock cairns. One was located in PWP II in the immediate vicinity of a turbine location and one was found near the proposed substation site. The two other sites are located in PWP I, one adjacent to two turbine locations and the second along an existing access road. Note that due to concerns about damage to these specific locations, information relating to specific locations of sites and artifacts has been removed from this copy of the report. A complete, unabridged version of the report has been sent to the Wyoming State Historic Preservation Office (SHPO) for review.

6.12.4 Construction Impacts

To the extent possible, direct impacts to cultural resources will be avoided by the proposed Projects. The locations of archaeological sites, buffered by 100 feet, were taken into consideration during project design and WTGs and access roads were sited to avoid impacts to these features. As noted above, two WTGs in PWP I are located within a archaeological site that is unevaluated or eligible for listing on the NRHP. The second site in PWP I has been avoided through a change in the location of an access road. Similarly, a PWP II turbine and the project substation have been relocated to areas outside a 100-foot buffer around each of these sites. In the event that turbine locations and associated infrastructure cannot be relocated to avoid NRHP-recommended eligible sites, testing will occur to identify portions of the site that do not contribute to its eligibility for listing. Facilities will then be microsited in these areas to avoid impacts to significant portions of these sites.

6.12.5 Operations Impacts

Operation of the Projects will have no effect on cultural resources.

6.13 RECREATIONAL RESOURCES

This section examines community recreational facilities, urban outdoor recreational opportunities and outdoor resource-oriented recreational opportunities that exist in the area of site influence. This section also describes any anticipated impacts on the recreational facilities by the proposed Pioneer Wind Park during construction and operations.

6.13.1 Area of Site Influence

The area of site influence for recreational resources is generally equivalent to the recommended area of site influence for socioeconomic resources, i.e., south-central Converse County and eastern south-central Natrona County and the communities of Glenrock, Douglas, and Casper.

6.13.2 Recreational Facilities and Outdoor Recreational Opportunities

No developed public parks or recreation facilities exist within the study area boundary. The study area overlaps the northeast portion of the Deer Creek Hunter Management Area (HMA). A small portion of the PWP I project site and approximately two-thirds of the PWP II project site overlap this HMA. Hunter Management Areas (HMA) are

parcels of land where the Wyoming Game & Fish Department facilitates management of hunters for access to hunt. The area may refer solely to private lands or a combination of private, state trust land and federal land within ranch boundaries. All hunters who wish to hunt these access areas must obtain a printed permission slip. The Duncan Ranch HMA is located immediately adjacent to and north of the study area. A southerly portion of the study area overlaps private holdings within the Medicine Bow National Forest. The Projects have been designed to avoid construction of any facilities on these holdings and recreational uses will not be affected. The nearest proposed turbine locations are located in PWP II, approximately 0.6 miles north of the Forest boundary. The Medicine Bow National Forest can be accessed by traveling via the Box Elder Road south of the project area, though there are no developed recreational facilities located in that part of the forest.

Several public town parks, recreation facilities and two county parks exist within ten miles of the study area in Glenrock and the surrounding area. Additional public parks, recreation facilities and outdoor recreational opportunities including city, state and county parks and attractions exist beyond 20 miles from the study area in the cities of Douglas and Casper.

Table 6.14 lists town parks, recreational facilities and outdoor recreation opportunities within an approximately 10 mile vicinity of the Pioneer Wind Park I and Pioneer Wind Park II. These recreational opportunities are illustrated on Map F-11R in Appendix 3.

6.13.3 Additional Recreational Facilities and Outdoor recreational opportunities in Converse and Natrona Counties

Many recreational resources exist in Converse and Natrona Counties that provide opportunities to golf, hike, ski, swim, watch wildlife, fish, picnic, camp, hike, mountain bike, and hunt in the region of the proposed Projects. In the towns of Casper and Douglas, two cities that will house many of the construction workforce, many outdoor recreational opportunities and recreational facilities exist. These recreational opportunities in Casper and Douglas are approximately 20-30 miles from the study area.

facilities by construction workers, the effects of construction activities on outdoor recreation resources and access routes and the change in the outdoor recreation setting.

The relatively small and short-term construction workforce would likely have little effect on community parks and recreation facilities. The distribution of the non-local workforce at peak (23 persons in Glenrock, 6 in Douglas and 99 in the Casper area) would be a fraction of the current and anticipated regional population. Consequently, its effects on park and recreation center use by construction workers would be negligible. Similarly, the use by construction workers of the extensive outdoor recreation resources available within the region would have negligible effects on those resources.

Construction activities on the PWP I and PWP II sites may affect recreation travelers on the Mormon Canyon Road for the six-month duration of each of the two construction segments as recreation travelers may encounter temporary delays, construction activities and equipment. The Box Elder Road, which would not be affected by PWP I or PWP II construction, aside from possibly along the short segment connecting Windy Ridge Road to the southern end of Mormon Canyon Road, provides an alternate route to the MBNF. Appropriate signage alerting recreation visitors to the MBNF of construction activities and the availability of the Box Elder Road route could avoid some of the potential effects of construction on the Mormon Canyon Road. Construction activities would not affect recreation use of Box Elder Park, but use of the Mormon Canyon - Box Elder Road loop tour would likely be affected during construction.

Pursuant to our leases, private property owners leasing to PWPLLC, PWP I or PWP II retain the ability to manage any non-wind related activities on their property, including allowing hunting and recreation. The proposed site plan for PWP I includes five turbines, access roads, the O&M Building, and the concrete batch plant, located in the northern tip of the Deer Creek HMA. PWP II includes 19 WTGs, a permanent met tower, and associated access roads located in the Deer Creek HMA (see Map F-11R). This may affect hunting during construction. Approximately 105 acres or 0.2 percent of the 67,532-acre Deer Creek HMA will be temporarily disturbed by construction activities. Hunting should be able to continue unimpeded in the remainder of the HMA during construction. Following construction, temporary use areas will be reclaimed resulting in a permanent disturbance of about 33 acres or 0.5% of the HMA. Hunting activities would resume uninterrupted assuming that the landowners continue to participate in the HMA program.

Hunting may also be affected on private and state lands in the PWP I and PWP II project sites during the two construction seasons.

6.14.2 Consistency with Land Use Plans

The area of site influence for land use consists of the two Project sites and the County Roads that will be used to access the site. These areas are located entirely within Converse County. The proposed development site for PWP I comprises approximately 3,061 acres and the PWP II site comprises approximately 7,158 acres. As described above, these sites are located entirely on private lands. No federal or state lands will be used for any project-related infrastructure.

6.14.2.1 Converse County Land Use Plan

According to the General Land Use Map for Converse County contained in the Converse County Land Use Plan (Converse County 2003), the study area and surrounding private fee lands are categorized as Agricultural. This designation describes "lands, which because of the resource value, e.g. agriculture, non-traditional agriculture use, recreation, and extraction, are encouraged to remain undeveloped. As discussed in Section 5.4, the Projects will not alter the current land use category.

The newly adopted Converse County Wind Energy Siting Regulations require all facilities with gross generation of 0.5 MW or greater to apply for a Wind Energy Conversion System (WECS) Use Permit. The application process involves the Planning and Zoning Board and the Board of County Commissioners, as well as community input during a defined and requisite public comment period and hearing.

The WECS permit applicants must certify that the proposed facility will comply with all applicable state and county zoning and land use regulations. The applicant must also submit with the application a waste management plan and a reclamation/decommissioning plan to ensure future compliance with the land use designation.

6.14.3 Construction Impacts

Existing access roads will be used or improved where practicable to minimize PWP I and PWP II impact to lands within the project area. The Projects will be designed with all turbines located in compliance with W.S. 18-5-504, which defines minimum setbacks from property lines, public roads, city limits, and private residences. This will ensure the PWP I and PWP II does not impact activities on lands adjacent to the project areas. Lands within the two project sites are primarily used for grazing. Although construction of the Projects may conflict somewhat with grazing during the construction periods, this disturbance associated with construction activity would be temporary, limited to one summer and one fall season per site and will be coordinated with the private landowners (our lessors). In the first few years following construction, reclaimed temporary use areas will begin to produce forage and effects on grazing will be negligible. Development of the Projects will be consistent with all relevant land use plans, policies, and regulations.

6.14.4 Operation Impacts

The operation of wind turbines is highly compatible with grazing and farming activities. Cattle, sheep, and other domestic animals routinely graze underneath operating wind turbines at projects across the United States and around the world, and ranchers regularly farm around wind turbines. Operation of a wind energy facility is compatible with existing and future surrounding land uses in the project area.

6.15 TRANSPORTATION

This section identifies the primary and secondary transportation routes by which construction and operations personnel and heavy equipment are expected to access the two project sites. This analysis was prepared by Civil Engineering Professional, Inc. (CEPI) out of Casper under contract to WWI.

7.0 CONTROLS, MITIGATION, AND MONITORING MEASURES

A number of specific controls, mitigation, and monitoring measures will be implemented to assess, avoid, minimize, and compensate for impacts resulting from construction and operation of the proposed Projects. These measures can generally be classified as avoidance, prevention, and exclusionary actions. Implementation of these measures, when combined with those actions, design features, and permit requirements identified in the preceding chapters will ensure that the proposed Projects comply with all applicable laws, that they will not pose a threat of serious injury to the environment or to the social and economic condition of the current or expected inhabitants, and that they will not substantially impair the health, safety or welfare of the current or expected inhabitants in the affected area.

7.1 CONTROLS

A broad array of measures are being proposed to mitigate the exposure of people, animals, and facilities to potential hazards associated with construction and operation of the Projects. These measures can generally be classified as avoidance and minimization efforts.

The following control measures, in combination with setback distances, significantly reduce the likelihood of the general public coming within a hazardous distance of WTGs and electrical equipment. The Projects will be designed, constructed, and operated to adequately restrict public access from potentially hazardous areas without restricting landowners and landowner-approved public from enjoying traditional uses of project lands.

7.1.1 Avoidance

SWCA LLC developed a detailed site assessment of known and identified environmental constraints across the two project sites and used this information to determine the appropriate locations of site facilities. The process of identifying constraints and modifying the site plans to accommodate those constraints was an iterative process that resulted in a number of WTG and facility layout revisions over the course of months. The revised site plan presented in Appendix 3 (Map A-2R) was designed to avoid impacts to Greater Sage-Grouse leks, raptor use areas (including prey concentration areas), aquatic and riparian habitats, scenic resources, cultural resource sites and comments received during the ISD comment period. Consequently, the resulting preliminary site plan only utilizes areas that are most appropriate for development.

7.1.2 Prevention

The primary means of preventing hazards to project workers and the general public will be adherence to appropriate design and construction protocols such as the International Electrotechnical Commission (IEC) 61400-1: Wind Turbine Generator Systems – Part 1: Safety Requirements (International Electrotechnical Commission (IEC) 1999). This will ensure that project designs, construction standards, and safety features are in accordance with industry norms and benefit from the experience of many manufacturers and operators.

A second important form of prevention is the establishment of a skilled and knowledgeable workforce and implementation of effective facility-wide maintenance, monitoring, compliance, and security programs. This includes the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP), Spill Prevention, Control, and Countermeasures (SPCC) Plan; Emergency Response Plan; and Fire Protection and Prevention Plan; as well as consultation with the appropriate local agencies.

7.1.3 Exclusion

Every hazard identified herein decreases as some function of linear distance from the facilities. In many cases it has been possible to reduce or eliminate hazards to persons and facilities by prohibiting or controlling their presence in the area of site influence. Where multiple hazard area overlaps, the largest distance should govern. Portions of the PWP I and PWP II project sites will have controlled access (e.g. O&M Building equipment yard, collector and interconnection substations), and access to the facilities will be limited to persons who are knowledgeable of safety measures and potential risks.

7.1.4 Restricted Public Access

The Projects' WTGs and appurtenant facilities will be located on private fee lands. The transmission line will traverse a small portion of State of Wyoming lands. All of the State of Wyoming lands within the Project boundary are predominantly surrounded by private fee lands, and public access is generally limited to the Mormon Canyon Road right-of-way. Each WTG will have an internal ladder with safety platforms for access to the nacelle and a locked entry door at ground level to prevent unauthorized individuals from climbing the tower. Step-up transformers will be located within locked cabinets at the base of each tower. Additionally, PWP I, LLC and PWP II, LLC will restrict public access to any related or supporting facilities that could pose a

7.1.6.8 Electromagnetic Fields

Electromagnetic fields (EMFs) are associated with electrical currents and are not specific to wind power projects. EMFs can be considered a possible hazard when associated with the siting of high-voltage (greater than 115 kV) overhead transmission lines in close proximity to residences.

EMFs are generally not an issue with respect to WTGs, which have low-voltage drop cables (690 volts) contained within steel towers and have a predominately underground collection system, also at low voltage (34.5 kV). Exposure of individuals working within and around WTGs to EMFs generated by the Projects is minimal because of these low voltages. Distribution lines used to supply energy to the O&M building and the WTGs (when they are not running) will also be low voltage (34.5 kV) and will be located underground and/or cross areas that are not inhabited or used on a regular basis, so long-term exposure of individuals to EMFs would not occur.

As with any transmission line, EMFs could be generated by the two Projects' approximately 6.5-mile long, 230 kV transmission line. The potential for EMF exposure from the Projects is anticipated to be very low because the line traverses undeveloped land. The high voltage transmission line has been sited to avoid occupied residences and developed areas where people would be present for any extended period of time. The closest residence is located approximately 0.6 miles from the proposed route for the overhead transmission line and it belongs to a participating landowner. The transmission line will be designed and built according to industry standards to minimize the potential for EMF impacts. Thus, EMF impacts from the proposed transmission line are not anticipated to be significant.

7.1.6.9 Lightning

East-central Wyoming is not a highly lightning-prone area. Nevertheless, the potential for lightning strikes has been considered in the design of the proposed Projects and their structures. Because the WTGs will be the highest structures in the surrounding area, the probability of lightning striking them, should there be an electrical storm in the immediate area, is relatively high. The mitigation measures in place are designed to minimize this risk significantly. The WTGs and the substations will be equipped with specially engineered state-of-the-art lightning-protection systems. Every wind turbine foundation will have grounding equipment to discharge electrical energy into the earth should the wind turbine build up an electrical charge as a result of being struck by lightning or in the case of an equipment malfunction.

7.2.1 Failure of Machinery and/or Structures

Mitigation for or prevention of impacts from mechanical or structural failure(s) will be achieved by a combination of adherence to all appropriate engineering and construction regulations, careful planning and controlled site access. WTGs are equipped with multiple safety systems as standard equipment. Critical components have multiple temperature sensors and a control system to shut the system down and take it off-line if an overheating condition is detected. Lightning protection is standard on the WTGs, and an engineered lightning protection and grounding system will be specificially designed, engineered, and installed for the Projects as described above.

7.2.1.1 Safety Setbacks

PWPLLC has adhered to and gone beyond Converse County standards regarding facility setbacks from county roads and property lines in order to ensure safe construction and operation zones:

Roads

- Mormon Canyon Road: Converse County requires setbacks equal to a minimum of 1.1 times the height of the WTGs or approximately 440 feet. Under the current site plan, the nearest turbine to Mormon Canyon Road in PWP I is approximately 480 feet away. In PWP II, the nearest turbine to Mormon Canyon Road is approximately 475 feet away.

Occupied Residences

- Participating residences: approximately 0.5 mile buffer
- Non-Participating residences: 1.1 mile buffer

7.2.1.2 Blade and Blade Fragment Throw

During construction, the turbine manufacturers' recommended handling instructions and procedures will be implemented to prevent damage to towers or blades that could lead to failure. In addition, certification of the WTG's to the requirements of IEC 61400-14 will ensure that the static, dynamic, and defined-life fatigue stresses in the blade will not be exceeded under the combined load cases expected at the Project sites. The standard includes safety factors for normal, abnormal, fatigue, and construction loads. This

Particulate Matter - The concrete batch plant will include appropriate filtration in accordance with the required air quality permit. The plant contractor or subcontractor and the holder of the issued air quality permit will be responsible for ensuring that the batch plant is operated in accordance with the issued permit conditions.

The use of a portable batch plant on private fee lands for making concrete would be a permitted source (i.e., the plant would have an operating permit with emissions limitations issued by the state of Wyoming). A WDEQ-AQD permit will be required prior to the operation of the batch plant pursuant to Chapter 6, Section 2 of the WDEQ's Standards and Regulations. Therefore, the resulting construction emissions will not result in a significant detriment to or significant impairment of the environment or the social and economic condition of present or future inhabitants in the area of site influence.

7.2.2.2 Operations - Methods for Control

Because no air emissions will be generated from the operation of the WTGs or substations, no additional method of control has been proposed or should be necessary. PWP I and PWP II, LLC will minimize O&M vehicle emissions by ensuring proper maintenance and by enforcing operational strategies and driving behaviors that maximize efficiency. In cooperation with Converse County, PWP I, LLC and PWP II, LLC will implement speed limits to ensure that fugitive dust generated by O&M vehicles traveling on the two Projects' access roads and county roads will be minimal. As a result, air quality impacts during operations will be minimal and will not result in any substantial impairment to the health, safety, or welfare of the present or expected inhabitants in the area of site influence.

7.2.3 Noise

The following mitigation measures will be implemented to reduce noise and the potential for annoyance from the two Projects' construction-related activities (even though no impacts to residents are anticipated):

- For PWP I there is a minimum distance of 1.1 miles between a WTG and the nearest non-participating landowner structure; for PWP II the minimum distance between a WTG and nearest non-participating landowner structure is 3.5 miles.
- Construction and hauling equipment will be maintained adequately and equipped with appropriate mufflers

The following measures will be implemented to reduce impacts to vegetation from construction-related activities:

- PWP I, LLC , PWP II, LLC and its contractors will exercise care to preserve the natural landscape and will conduct operations (including all construction-related activities on the Projects' designated access roads and staging areas) to prevent any unnecessary damage to, or destruction of, natural vegetation features.
- Disturbed soil surfaces will be stabilized with the appropriate native seed mixture, or the seed mixture requested by the landowner, as soon as practicable following construction. Areas of soil disturbance shall be seeded as agreed upon with the landowner.
- Landscape fabrics, cellulose, straw mulch, or other suitable erosion control materials will be used according to the manufacturer/supplier specifications for application to ensure adequate temporary erosion control.

7.2.8 Noxious and Invasive Weeds

Any ground-disturbing activities inherently increase the risk of weed introduction. These risks can best be mitigated, and will be mitigated, through timely revegetation. All temporary use areas will be regraded and reseeded in accordance with the plan described above.

To limit the introduction and spread of noxious weeds and other invasive plant species, the project sites will be monitored by O&M staff and any undesirable plants will be controlled using mechanical or chemical methods. Overall, impacts to native vegetation communities will be minimized through the use of BMPs.

7.2.9 Wildlife Resources

As described in Section 6.9, wildlife survey protocols, data analysis, and reporting have been determined in consultation with the WGFD and the USFWS. Wildlife data collected in 2010 has been used to inform the development of the preliminary site plan (Appendix A, Map A-2) and revised preliminary site plan (Appendix 3, Map A-2R) such that impacts to Greater Sage-Grouse leks, high raptor use areas (including ridgelines and prey concentration areas), and aquatic habitats along Willow Creek and its tributaries are excluded from development.

WWI is also working with WGFD and Project landowners to develop a Wildlife Conservation Plan in accordance with the WGFD *Recommendations* document. A meeting between WWI, the WGFD, and

project landowners took place on December 10, 2010, at the WGFD office in Cheyenne. At this meeting, the draft Wildlife Conservation Plan was reviewed by all parties and revisions are currently being made to ensure that it complies with WGFD requirements and landowner wishes.

The Wildlife Conservation Plan is expected to be finalized in February, 2011. The plan specifies post-construction requirements for restoration and revegetation of temporary use areas, weed control, wildlife monitoring, fatality monitoring, and annual reporting. Specific mitigation for wildlife impacts, if required, will be determined in coordination with the WGFD and USFWS based on the results of post-construction monitoring.

7.2.10 Scenic Resources

The following mitigation measures will be implemented to minimize impacts to scenic resources from construction-related activities:

- PWP I, LLC, PWP II, LLC and its contractors will exercise care to preserve the natural landscape and will conduct construction operations so as to prevent any unnecessary damage to, or destruction of natural resources.
- Construction routes not required for operations and maintenance access will be restored as closely as possible to the original condition pending landowner consent. The surfaces of such construction access corridors shall be ripped, regraded, and scarified as needed to provide surface conditions that will facilitate revegetation, provide proper drainage, and prevent erosion.
- Turbines were moved to minimize the visibility from the Town of Glenrock and to avoid and mitigate views from historic ranch structures identified by SHPO.

7.2.11 Cultural Resources

The following measures will be used to avoid impacts to cultural resources during construction:

- The proposed site plan including both Projects (Appendix A, Map A-2), did not place any project facilities or access roads within 100 feet of cultural resources identified during the 2010 Class II Cultural Resource Inventory of the project sites. With the revised site layout (Appendix 3, Map A-2R), some of the turbines, project substation and the transmission segment connecting PWP II to PWP I were moved outside of the original cultural resource survey blocks. On April 11th, SWCA commenced cultural resource inventory of the new turbine and substation locations and along the amended transmission route. In the event that turbine locations and associated infrastructure cannot be relocated to avoid NRHP recommended eligible sites, testing will occur on-site to determine areas that are non-contributing to the eligibility of the site. Fencing and monitoring by a qualified archaeologist may be recommended to ensure that the contributing portions of the site are adequately avoided and not impacted by the project. In order to ensure that these sites are not inadvertently impacted during construction, the buffered polygons around the sites will be marked on construction drawings and, where necessary, orange construction fencing will be installed around their periphery to ensure that they remain "no entry" areas during construction.

- Construction crews shall participate in environmental compliance training, including the necessity of avoiding cultural resource sites, to further increase awareness of the sites and to prevent accidental damage to known and undiscovered cultural resources.
- Should any previously unknown historic/prehistoric sites or artifacts be encountered during road clearing and excavation activities, all such activities will be immediately suspended at that location and the discovery left intact until such a time that PWP I, LLC, PWP II, LLC and the landowner, SHPO, and State Lands staff (if and as applicable) are notified and appropriate measures are taken to ensure compliance with landowner desires or state laws and regulations, as appropriate.
- Should any human remains be discovered, all land altering activities at that location will be immediately suspended and the Converse County Coroner will be immediately notified. Cultural resources recommended National Register of Historic Places (NRHP) eligible or unevaluated will be avoided. In the event that turbine locations and associated infrastructure cannot be relocated to avoid NRHP recommended eligible sites, testing will occur on-site to determine areas that are non-contributing to the eligibility of the site. Fencing and monitoring by a qualified archaeologist may be recommended to ensure that the contributing portions of the site are adequately avoided and not impacted by the project.
- If during micro-siting and final site design proposed facilities are required to be located outside of the area inventoried for cultural resources, additional archaeological surveys will be completed to ensure avoidance of sites considered unevaluated, eligible or approved for listing on the National Register of Historic Places.

7.2.12 Land Use and Recreation

The following mitigation measures will be followed to reduce land use and recreation impacts from construction and operation-related activities:

- Hunting will continue on private land during operation of the Projects as per existing landowner agreements.
- To the extent possible, the EPC contractor will limit movement of crews, vehicles, and equipment to existing county road rights-of-way and approved access roads to ensure that property damage and disruption or normal land use and recreational activities in minimized.
- The EPC contractor shall eliminate, at the earliest opportunity, all construction ruts that are hazardous to agricultural or ranching operations and/or movement of vehicles and equipment. Any ruts will be leveled, filled, and graded or otherwise eliminated in an approved manner. Damage to ditches, tile drains, culverts, terraces, local roads, and other similar land use features shall be restored as nearly as practicable to the original condition.