

**BEFORE THE  
PUBLIC UTILITIES COMMISSION  
STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF LOOKOUT SOLAR PARK I, LLC FOR AN ENERGY FACILITY PERMIT FOR  
THE LOOKOUT SOLAR PROJECT**

**SD PUC DOCKET EL 18-007**

**PRE-FILED TESTIMONY OF STEFFEN STEINEL ON BEHALF OF LOOKOUT SOLAR PARK I, LLC**

**December 2018**

1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. Please state your name, employer, and business address.**

3 A. My name is Steffen Steinel. I am Head of Technical Development at Wircon GmbH and President of Wircon USA,  
4 Inc. My business address is Lookout Solar Park I, LLC, 8215 El Rio, Houston, TX 77054.

5 **Q. Please describe your background and qualifications.**

6 A. I am a lawyer with over 14 years of experience in the development and construction of solar power plants and  
7 strong background in renewable energy projects. Currently, I am President of Wircon USA, Inc. and Head of Technical  
8 Development at Wircon GmbH. I have advised the Wircon group of companies internationally in various technical  
9 aspects of solar and wind projects in the United States, Canada, Australia, Belgium, Denmark, France, Germany, Italy,  
10 the Netherlands, Switzerland, and the United Kingdom amounting to over 1 gigawatt of energy.

11 **Q. Could you explain the relationship between Wircon GmbH and Lookout Solar Park I, LLC with regard to the  
12 proposed Lookout Solar Project (the "Project")?**

13 A. Wircon GmbH is the sole shareholder of Wircon USA, Inc. Wircon USA, Inc. is the sole member of Lookout Solar  
14 Investment Holdings I, LLC. Lookout Solar Investment Holdings I, LLC is the sole member of Lookout Solar Park I, LLC.

15 **Q. Could you please describe Wircon's experience in the renewable energy industry, particularly its experience  
16 developing solar projects?**

17 A. Wircon is an international group of companies with extensive experience in the acquisition, development, project  
18 finance, construction and sale of large-scale solar parks and wind farm projects. Over the last three years, Wircon  
19 has worked on over 60 solar photovoltaic projects amounting to over 780 MW in Australia, Denmark, Germany, the  
20 Netherlands, Northern Ireland, and the United Kingdom.

21 **Q. What is your role with respect to the Project?**

22 A. I am one of the Project Managers. I also am President of Wircon USA, Inc., which is the sole member of Lookout  
23 Solar Investment Holdings I, LLC, which in turn is the sole member of Lookout Solar Park I, LLC ("Lookout Solar") –  
24 the owner and operator of the Project.

25 **Q. What is the purpose of your testimony?**

26 A. The purpose of my testimony is to provide an overview of the Project's development history, including: site  
27 selection; site analysis; layout and facility design; land use compatibility; and permitting. I also will provide an  
28 overview of the proposed construction, operation, and decommissioning of the Project.

29 **Q. Please identify the sections of the Facility Permit Application (the "Application") that you are sponsoring for  
30 the record.**

31 A. I am sponsoring the following sections of the Application:

- 32
  - Section 1.0: Introduction

- 1 • Section 2.0: Facility Permit Application
- 2 • Section 3.0: Completeness Checklist
- 3 • Section 4.0: Names of Participants
- 4 • Section 5.0: Names of Owner and Manager
- 5 • Section 6.0: Purpose of the Energy Facility
- 6 • Section 7.0: Estimated Cost of the Energy Facility
- 7 • Section 8.0: General Site and Project Component Description
- 8 • Section 9.0: Alternative Sites and Siting Criteria
- 9 • Section 10.0: Environmental Information
- 10 • Section 11.0: Effect on Physical Environment
- 11 • Section 12.0: Effect on Hydrology
- 12 • Section 13.0: Effect on Terrestrial Ecosystem
- 13 • Section 14.0: Effect on Aquatic Ecosystem
- 14 • Section 15.0: Land Use
- 15 • Section 16.0: Local Land Use Controls
- 16 • Section 17.0: Water Quality
- 17 • Section 18.0: Air Quality
- 18 • Section 19.0: Time Schedule
- 19 • Section 20.0: Community Impact
- 20 • Section 21.0: Employment Estimates
- 21 • Section 22.0: Future Additions and Modifications
- 22 • Section 23.0: Decommissioning of Energy Facility
- 23 • Section 24.0: Transmission Facility Layout and Construction
- 24 • Section 25.0: Information Concerning Transmission Facilities

- 1 • Section 26.0: Additional Information in Application
- 2 • Section 27.0: Testimony and Exhibits

3

4 **II. PROJECT OVERVIEW**

5 **Q. Who will own and operate the Project?**

6 A. Lookout Solar.

7 **Q. Please provide a basic description of the Project, including where it is located?**

8 A. The Lookout Solar Project would consist of an up to 110 MW solar generating facility located on the Pine Ridge  
9 Reservation; an underground transmission line running along Riverside Road, 148th Avenue, and Cottonwood Cutoff  
10 in Custer County; a substation and interconnection facilities located in Custer County that interconnects to WAPA's  
11 high voltage transmission lines.

12 **Q. Has Lookout Solar secured all of the necessary property rights for the Project?**

13 A. Lookout Solar has secured the property rights for the generating facility in Oglala Lakota County and the  
14 substation in Custer County. Lookout Solar has applied or will apply prior to construction for governmental permits  
15 that will provide access rights for the transmission line. Specifically, Lookout Solar will obtain approval from Custer  
16 County to locate the transmission line the County's right-of-way in Riverside Road, 148<sup>th</sup> Avenue, and Cottonwood  
17 Cutoff. Lookout Solar will obtain an easement from the South Dakota Department of School and Public Lands for  
18 horizontal directional drilling under the Cheyenne River. Lookout Solar will obtain any require permit from the U.S.  
19 Forest Service to place the transmission line in the county road along the Forest Service land on Cottonwood Cutoff,  
20 and if for locating the substation on Forest Service land if the alternative location for the substation is selected.  
21 Lookout Solar will obtain approval from the U.S. Bureau of Reclamation to cross the Angostura Canal.

22 **Q. How and where will the Project interconnect to the electric grid?**

23 A. The Project will include an approximately 10-mile transmission line that will extend between the solar panels in  
24 Oglala Lakota County to the substation and high voltage (230 kV) transmission lines in Custer County. The Project  
25 will interconnect to the high voltage transmission lines owned by the Western Area Power Administration ("WAPA")  
26 in Township 6S, Range 8E Section 14, or if the alternative substation location is selected, Section 11.

27 **Q. Has the Project identified an off-taker for the energy it will produce?**

28 A. No. The Project does not currently have a Power Purchase Agreement or Offtake Agreement, but Lookout Solar  
29 is currently in discussions with interested parties.

30 **Q. What is the proposed development schedule for the Project?**

31 A. Lookout Solar intends to obtain authorization to locate the transmission line in the Custer County roads in Spring  
32 2019. Any required federal authorizations are expected in Fall 2019 or sooner. Lookout Solar has begun

1 procurement of project specific equipment and is in the process of procuring solar panels, transformer stations,  
2 inverters and mounting systems for the Project. Lookout Solar has begun procurement of project specific equipment  
3 and is in the process of procuring solar panels, transformer stations, inverters and mounting systems for the Project.  
4 Lookout Solar anticipates that the Project would begin commercial operation by second quarter 2021. The  
5 commercial operation date is dependent on the completion of the interconnection process, permitting and other  
6 development activities.

7

### 8 **III. OVERVIEW OF SITE SELECTION**

#### 9 **Q. Why did Lookout Solar initially identify Oglala Lakota and Custer County for development of the Project?**

10 A. Oglala Lakota and Custer Counties has sufficient solar radiation potential for the solar project.

#### 11 **Q. Were alternative locations considered for the Project?**

12 A. Four alternative locations for the generating facility were considered in Oglala Lakota County but were not  
13 selected due to potential issues with geology, migratory birds, viewsheds, and/or access. Alternative routes for the  
14 transmission line in Custer County were considered but not selected due to impacts on the Cheyenne River,  
15 wetlands, federal lands, and/or access.

#### 16 **Q. Please provide an overview of the development work conducted by Lookout Solar to determine that the site 17 was suitable for solar development.**

18 A. Lookout Solar completed property, geological, archeological and cultural, wildlife, and wetland surveys in the  
19 Project area to determine that the area is suitable for the Project. More specifically, pursuant to the National  
20 Environmental Policy Act ("NEPA"), the U.S. Bureau of Indian Affairs ("BIA") completed an Environmental  
21 Assessment for the Project Area in Oglala Lakota County in June 2016 and issued a Finding of No Significant Impacts  
22 in June 2016. WAPA currently is the federal agency lead for the NEPA review of the Project area in Custer County  
23 and anticipates completing an Environmental Assessment in Spring 2019. Lookout Solar will implement the  
24 recommended measures in the Environmental Assessment to avoid and minimize impacts to the environment and  
25 the public.

#### 26 **Q. Please discuss in more detail the coordination Lookout Solar has had with local, state and federal officials and 27 the local community.**

28 A. Lookout Solar has communicated with Custer County officials regarding the necessary approvals for the Project  
29 on multiple occasions. Lookout Solar has similarly conducted outreach to the Oglala Sioux Tribe and the Tribe has  
30 issued a resolution supporting the Project. In communication with the review of the Project under NEPA completed  
31 by the BIA and underway by WAPA, landowners adjacent to the Project and local, state, federal and tribal  
32 government officials were sent letters requesting comment on the Project. A public scoping meeting was held at  
33 the Hot Springs Library on December 5, 2018. Another public scoping meeting is planned for January 16, 2019, at  
34 the Hot Springs Library. Additionally, the general public and government officials will have the opportunity to review  
35 and provide comments on the WAPA Environmental Assessment that will completed in Spring 2019. Lookout Solar

1 anticipates further engagement with governmental and tribal officials through National Historical Preservation Act  
2 Section 106 consultation process.

3 **Q. Is the Project compatible with the existing land uses and future development in and around the Project Area?**

4 A. The proposed Project is compatible with the existing agricultural land uses in areas surrounding the Project  
5 facilities. The agricultural areas that would be impacted by the construction and operation of the Project are primarily  
6 in the Project Area. The impacted agricultural land in the Project Area would not be more than 600 acres. Areas  
7 disturbed due to construction where Project facilities would not be located would be re-vegetated with vegetation  
8 types matching the surrounding agricultural landscape. The generating facility would be decommissioned after the  
9 end of the Project's operating life. The generating facility would be removed in accordance with applicable State and  
10 County regulations, unless otherwise agreed to by the landowner. Disturbed surfaces would be graded, reseeded,  
11 and restored as nearly as possible to their preconstruction conditions. After decommissioning for the Project is  
12 complete, no irreversible changes to land use would remain beyond the operating life of the Project.

13

14 **IV. PROJECT DESIGN AND CONSTRUCTION**

15 **Q. Please describe the Project.**

16 A. The Lookout Solar Project would consist of an up to 110 MW solar generating facility located on the Pine Ridge  
17 Reservation; an underground transmission line running along Riverside Road, 148th Avenue, and Cottonwood Cutoff  
18 in Custer County; a substation and interconnection facilities located in Custer County that interconnects to WAPA's  
19 high voltage transmission lines. The solar generating facility would include the following components: 500,000 solar  
20 panels; an energy storage facility; access roads to solar panels and associated facilities; eighteen 34.5 kV electrical  
21 collector lines connecting the solar panels to the collection substation; underground fiber-optic cable for  
22 communications co-located with the collector lines; a collection substation; and temporary construction areas,  
23 including laydown areas.

24 **Q. Please describe the construction.**

25 A. Construction will begin after applicable federal, state, and local approvals have been obtained, property and right-  
26 of-way are acquired, soil conditions are established and final design is completed. The precise timing of construction  
27 will take into account various requirements that may be in place due to permit conditions, system loading issues,  
28 weather and available workforce and materials.

29 The solar modules and transmission line will be designed to meet or surpass applicable electrical codes, and comply  
30 with good utility practices. Surveyors will stake the construction corridor within the approved right-of-way in  
31 preparation for the construction crew arriving on site. Once the construction crew arrives, they will begin by clearing  
32 and grubbing out parts of the right-of-way to ensure that vegetation meets the standards and that the construction  
33 crew will have easy access to the construction site. The crew will use chain saws, lifts, tractors and bulldozers only  
34 where needed to clear vegetation. The crew will install temporary culverts and field approaches where needed to  
35 access the route and to maintain adequate access and drainage throughout construction.

1 The Applicant will work with an experienced contractor to construct and maintain the solar modules and  
2 transmission line in conjunction with the construction and operation of the Lookout Solar Project. Construction will  
3 follow industry best practices. These best practices address transmission specifics such as right-of-way clearing,  
4 staging, horizontal directional drilling, and placements of lines underground. They also address general construction  
5 best practices including but not limited to safety and storm water pollution prevention planning. Lookout Solar  
6 would consider the proposed schedule for activities, permit requirements, safety measures, prohibitions,  
7 maintenance guidelines, inspection procedures, and terrain characteristics throughout the Project's development,  
8 construction, and operations. In some cases these activities, such as schedules, would be modified to minimize  
9 impacts to sensitive animals or environments or to enhance safety.

10 The transmission line would be designed for installation at existing grades. Lookout Solar anticipates that only  
11 minimal grading will be needed because the route has very little elevation change and the transmission line will be  
12 placed along the county road.

13 Typical construction equipment used on a project consists of mowers, backhoes, digger-derrick line trucks, track-  
14 mounted drill rigs, dump trucks, front end loaders, bucket trucks, bulldozers, flatbed tractor-trailers, flatbed trucks,  
15 pickup trucks, and various trailers. Many types of excavation equipment are set on wheel or track-driven vehicles.

16 Staging areas are generally established when constructing a transmission project. Staging involves delivering the  
17 equipment and materials to construct the new transmission line facilities. Structures are delivered to staging areas,  
18 sorted and loaded onto structure trailers for delivery to the staked location. The materials are stored until they are  
19 needed for the Project. In some cases, additional space (temporary laydown areas) may be required. These areas  
20 will be selected for their location, access, security, and ability to efficiently and safely warehouse supplies. The areas  
21 are chosen to minimize excavation and grading. Sufficient rights to use the temporary laydown areas outside of the  
22 transmission line right-of-way will be obtained from affected landowners through the lease agreements.

23 When it is time to install the solar arrays and the transmission line, structures are moved from the staging areas,  
24 delivered to the staked location and placed within the right-of-way until the structure is set. Typically, access to the  
25 transmission line right-of-way corridor is made directly from existing roads that run parallel or perpendicular to the  
26 transmission line right-of-way. In all cases where construction traffic and activities are within close proximity to local,  
27 county or state roadways, the contractor will coordinate with the governing body on traffic control and safety  
28 measures. In some situations, private roads or trails may need to be used for access. Permission from the property  
29 owner would be obtained prior to accessing the transmission line corridor outside of public rights-of-way. Once  
30 construction is complete the Transmission Line Route will be revegetated.

31 **Q. Please describe decommissioning.**

32 A. In general, the majority of decommissioned equipment and materials would be recycled. Materials that cannot  
33 be recycled would be disposed of at U.S. Environmental Protection Agency approved/permitted facilities. General  
34 decommissioning activities would typically include: Dismantling and removing above ground equipment (e.g., solar  
35 arrays, the substation and interconnection facilities, etc.), unless the equipment is sold to the landowners; removing  
36 panel support posts; and abandoning underground utilities.

37 **Q. Please describe the personnel that would be involved in the construction and operation of the Project.**

1 A. The Applicant will work with an experienced contractor to construct and maintain the solar modules and  
2 transmission line in conjunction with the construction and operation of the Lookout Solar Project. Construction and  
3 operation will follow industry best practices.

4

5 **VI. DESIGN, CONSTRUCTION, AND OPERATIONAL CONSIDERATIONS**

6 **Q. Will the Project participate in the South Dakota One-Call Program?**

7 A. Yes. Lookout Solar will participate in the One-Call program to locate underground infrastructure prior to  
8 construction. In addition, once construction is completed, the Project will register its facilities with the One-Call  
9 program.

10 **Q. With respect to the use of existing local and state roads, will Lookout Solar coordinate with applicable road**  
11 **authorities regarding the use and restoration those roads?**

12 A. Yes. Lookout Solar will comply with any conditions in governmental approvals allowing use of local and state  
13 roads. Additionally, Lookout Solar will consult with local and state governmental authorities regarding restoration  
14 of any roads adversely impacted by the construction and operation of the Project. Finally, Lookout Solar intends to  
15 utilize paved rather than unpaved roads to the extent possible.

16 **Q. What steps will the Project take to prepare for a potential emergency situation at the Project site during**  
17 **construction or operation of the Project?**

18 A. Lookout Solar's construction contractor will be responsible for securing the site and implementing health and  
19 safety programs in connection with construction and startup activities. Lookout Solar will ensure that emergency  
20 preparedness plans are in place during operations, including periodic supervision and monitoring, maintenance of  
21 the site, and systems for notifying affected stakeholders of adverse events.

22 **Q. Will the Project be designed, constructed and operated in compliance with all applicable federal, state, tribal,**  
23 **and local regulations?**

24 A. Yes. Lookout Solar will comply with all applicable federal, state, tribal, and local regulations.

25

26 **IX. PERMITS AND APPROVALS**

27 **Q. In addition to an Energy Facility Permit from the PUC, what other permits or approvals are required for the**  
28 **Project?**

29 A. The table below provides a list of the permits and approvals for the project and when Lookout Solar anticipates  
30 obtaining those permits and approvals.

31



<b>Government Level</b>	<b>Agency</b>	<b>Permits/Approvals/Consultations</b>	<b>Timing</b>
<b>Federal</b>	Western Area Power Administration	Interconnection Approval; Transmission System Upgrades; NEPA Review	Prior to Construction
<b>Federal</b>	Western Area Power Administration	National Historic Preservation Act (“NHPA”) Section 106 Consultation Regarding Archaeological and Cultural Resources	Prior to Construction
<b>Federal</b>	U.S. Forest Service	Special Use Permit; NEPA Review (if required)	Prior to Construction
<b>Federal</b>	U.S. Army Corps of Engineers	Wetlands Jurisdictional Determination; Nationwide Permit Authorizations	Prior to Construction; Permit by Rule
<b>Federal</b>	U.S. Bureau of Indian Affairs	Approval of Lease; NEPA Review	Prior to Construction
<b>Federal</b>	U.S. Bureau of Reclamation	Approval for Crossing of Angostura Canal	Prior to Construction
<b>Federal</b>	U.S. Fish and Wildlife	Consultant Regarding Protected Species	Prior to Construction
<b>State</b>	South Dakota Public Utility Commission	Permit for an Energy Facility	Prior to Construction
<b>State</b>	South Dakota School and Public Lands	Easement for HDD under Cheyenne River	Prior to Construction
<b>State</b>	South Dakota Department of Environment and Natural Resources (“DENR”)	Permit to Construct for a Non-PSD Minor Source of Air Emissions (if needed)	Prior to Construction
<b>State</b>	DENR	National Pollution Discharge Elimination System Construction Stormwater Discharge Permit	Prior to Construction

<b>State</b>	DENR	No Exposure Certification (for exclusion from stormwater discharges associated with industrial activities) (if needed)	Prior to Construction
<b>State</b>	South Dakota Game, Fish, and Parks	State-listed Endangered Species Review	Prior to Construction
<b>State</b>	South Dakota State Historical Society	NHPA Section 106 Consultation	Prior to Construction
<b>Local</b>	Custer County	Floodplain Development Permit	Prior to Construction
<b>Local</b>	Custer County	Grant of Right to Occupy County Right of Way in County Roads	Prior to Construction
<b>Local</b>	Custer County	Building Permit	Prior to Construction
<b>Tribal</b>	Oglala Sioux Tribe	Business License	Prior to Construction
<b>Tribal</b>	Oglala Sioux Tribe	NHPA Section 106 Consultation	Prior to Construction

1

2 **Q. Will Lookout Solar obtain and the permits and approvals necessary to construct, own and operate the Project?**

3 A. Yes. Lookout Solar will obtain and the permits and approvals necessary to construct, own and operate the Project.

4

5 **VI. DECOMMISSIONING AND SITE RESTORATION**

6 **Q. What is the estimated life of the Project?**

7 A. Lookout Solar intends for the Project to operate for approximately thirty (30) years. The estimated service life  
8 of the proposed transmission line is approximately forty (40) years.

9 **Q. Will the Project be decommissioned at the end of its useful life?**

10 A. At the end of the project, the Lookout Solar would assess whether to cease operations at the Lookout Solar Farm  
11 or replace equipment (if needed) and attempt to enter into a new power purchase contract. If an entity is willing to  
12 enter into such an agreement, the Project could continue operating. If no arrangement is possible, the facilities  
13 would be decommissioned and dismantled, and the site would be reclaimed and restored to the approximate  
14 original site conditions.

1 **Q. If the Project is decommissioned, will the Project comply with all applicable federal, state, tribal and local**  
2 **requirements for decommissioning?**

3 A. Yes. Lookout Solar will comply with all applicable federal, state, tribal and local requirements for  
4 decommissioning.

5 **Q. Has Lookout Solar analyzed the cost of decommissioning the Project?**

6 A. Yes. Decommissioning costs are expected to amount to approximately \$1,000,000, including removal and  
7 dismantling of rack, panels, and cables; removal of fencing; and re-vegetation.

8 **Q. Who will be responsible for covering all of the anticipated decommissioning costs?**

9 A. Lookout Solar will be responsible for covering all of the anticipated decommissioning costs.

10

11 **VII. PROJECT BENEFITS**

12 **Q. Please describe the federal, state, tribal and local benefits the Project will provide.**

13 A. The Project is expected to create both short-term and long-term positive impacts to the local economy. Impacts  
14 to social and economic resources from construction activities would be short-term. Local businesses, such as  
15 restaurants, grocery stores, hotels, and gas stations, would see increased business during this phase from  
16 construction-related workers. Local industrial businesses, including aggregate and cement suppliers, welding and  
17 industrial suppliers, hardware stores, automotive and heavy equipment repair, electrical contractors, and  
18 maintenance providers, would also likely benefit from construction of the Project.

19 **VIII. CONCLUSION**

20 **Q. Based on the analysis that Lookout Solar has completed for the Project, has the Project been sited so as to**  
21 **minimize the impact the environment the local community, and land uses in the area?**

22 A. Yes. The current Project layout reflects the optimal configuration to best capture concentrated solar energy while  
23 avoiding wetlands, cultural resources, and wildlife habitat and minimizing impacts to existing land uses. The layout  
24 would be further refined for the purpose of eliminating and/or minimizing impacts to the environment and existing  
25 land uses based on ongoing coordination with local, state and federal authorities and with neighboring landowners.

26 **Q. Does this conclude your testimony?**

27 A. Yes.

28 Dated this 17th date of December 2018.

29 Steffen Steinel

30