Juliet Solar

Exhibit N

Glint and Glare Analysis

Case No. 20-1760-EL-BGN

Glint & Glare Analysis

Summary

Juliet Energy Project, LLC (Juliet), a wholly-owned subsidiary of 7X Energy, Inc is proposing to construct Juliet Solar (the Facility), which includes solar arrays in Milton Township, Wood County, Ohio (Figure 1). 7X Energy performed a Glint and Glare Analysis using the Solar Glare Hazard Analysis Tool (SGHAT) (now available through ForgeSolar) in order to identify any potential impacts on residences and vehicles on the routes surrounding the Facility. There are no airport approach paths within two miles of the facility.

There is no predicted glare for residences with an estimated first story viewing height of 8 feet or a second story viewing height of 16 feet. There was also no predicted glare from the solar arrays along the identified routes for cars with an estimated viewing height of 4 feet and for large trucks with an estimated viewing height of 8 feet. 7X Energy has applied FAA's glint and glare standards to vehicular operations due to the absence of non-aviation regulatory guidelines.

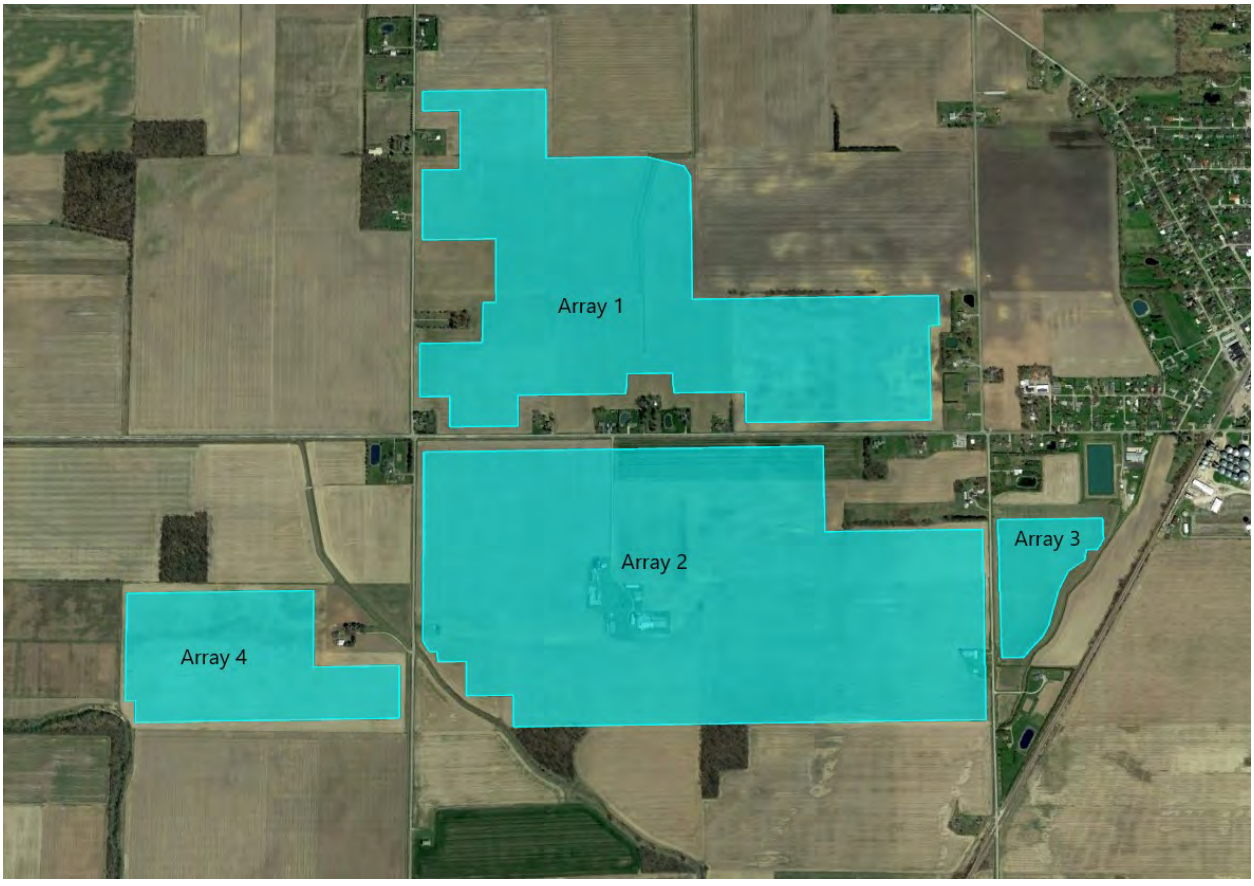

Figure 1: Locations of Juliet Solar PV arrays

Glint & Glare Analysis

Methodology

The results of this analysis conform to, and are in accordance with, the FAA's interim policy for *Solar Energy System Projects on Federally Obligated Airports*. The FAA adopted this interim policy in order to enhance safety for pilots, air-traffic control personnel, motorists and residents that may be impacted by a proposed solar energy installation. In cooperation with the Department of Energy (DOE), the FAA developed and validated the Sandia National Laboratories' "*Solar Glare Hazard Analysis Tool*" (SGHAT), now licensed through ForgeSolar. The FAA requires the use of the SGHAT to demonstrate compliance with the standards for measuring ocular impact.

The ForgeSolar tool employs an interactive Google map with abilities to specify site location, PV array boundaries and locations of observers. The tool provides a quantified assessment of when and where the glare will occur for a proposed solar installation and potential effects on the human eye at locations where glare occurs. Ocular impact is analyzed over the entire calendar year in one (1) minute intervals from when the sun rises above the horizon until the sun sets below the horizon.

SGHAT Assumptions:

- "Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
- "Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
- "Red" glare is glare with potential to cause retinal burn (permanent eye damage) when observed prior to a typical blink response time.
- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size.
- Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

The Juliet Solar arrays are single axis tracking solar arrays. 7X Energy utilized the SGHAT based guidance provided in User's Manual v.3. Specifically, the module for discrete observation points was utilized for residences and the module for routes was used for roads that are adjacent or near the solar arrays.

Glint & Glare Analysis

Data

The following data were used as input parameters by 7X Energy for Juliet Solar:

Parameter	Value
Axis tracking:	Single-axis rotation
Tracking axis orientation:	180.0°
Tracking axis tilt:	0.0°
Max tracking angle:	60.0°
Resting angle:	30.0°
Panel material:	Smooth glass with AR coating
Reflectivity:	Varies with sun
Slope error:	Correlate with material

Table 1: Juliet Solar input parameters

Vertex/ID	Latitude (deg)	Longitude (deg)	Ground Elevation (feet)	Height Above Ground (feet)	Total Elevation
1	41.34316	-83.8235	677.4	5	682.4
2	41.34392	-83.8236	677.1	5	682.1
3	41.34393	-83.8245	677.0	5	682.0
4	41.34541	-83.8245	676.8	5	681.8
5	41.34540	-83.8225	677.2	5	682.2
6	41.34621	-83.8225	677.9	5	682.9
7	41.34624	-83.8221	677.6	5	682.6
8	41.34814	-83.8221	677.1	5	682.1
9	41.34814	-83.8245	677.5	5	682.5
10	41.34999	-83.8246	678.5	5	683.5
11	41.34999	-83.8235	677.3	5	682.3
12	41.35072	-83.8235	677.2	5	682.2
13	41.35128	-83.8235	676.3	5	681.3
14	41.35133	-83.8246	676.5	5	681.5
15	41.35185	-83.8246	676.1	5	681.1
16	41.35190	-83.8204	675.8	5	680.8
17	41.35049	-83.8158	676.3	5	681.3
18	41.34663	-83.8157	675.8	5	680.8
19	41.34652	-83.8069	676.8	5	681.8
20	41.34576	-83.8069	678.4	5	683.4
21	41.34575	-83.8073	677.3	5	682.3
22	41.34335	-83.8072	679.3	5	684.3
23	41.34335	-83.8135	676.9	5	681.9
24	41.34407	-83.8135	677.2	5	682.2

Vertex/ID	Latitude (deg)	Longitude (deg)	Ground Elevation (feet)	Height Above Ground (feet)	Total Elevation
25	41.34402	-83.8162	676.7	5	681.7
26	41.34428	-83.8162	676.0	5	681.0
27	41.34425	-83.8173	676.5	5	681.5
28	41.34401	-83.8173	677.1	5	682.1
29	41.34394	-83.8191	677.5	5	682.5
30	41.34390	-83.8199	677.6	5	682.6
31	41.34391	-83.8210	677.9	5	682.9
32	41.34319	-83.8211	678.1	5	683.1

Table 2: Juliet Solar Array 01 vertices

Vertex/ID	Latitude (deg)	Longitude (deg)	Ground Elevation (feet)	Height Above Ground (feet)	Total Elevation
1	41.33566	-83.8212	678.5	5	683.5
2	41.33642	-83.8213	678.6	5	683.6
3	41.33643	-83.8228	679.3	5	684.3
4	41.33751	-83.8228	678.8	5	683.8
5	41.33751	-83.8241	678.5	5	683.5
6	41.33751	-83.8241	678.5	5	683.5
7	41.33777	-83.8243	679.5	5	684.5
8	41.34252	-83.8244	679.1	5	684.1
9	41.34268	-83.8109	678.4	5	683.4
10	41.34042	-83.8109	679.2	5	684.2
11	41.34049	-83.8055	678.7	5	683.7
12	41.33584	-83.8055	679.0	5	684.0

Table 3: Juliet Solar Array 02 vertices

Vertex/ID	Latitude (deg)	Longitude (deg)	Ground Elevation (feet)	Height Above Ground (feet)	Total Elevation
1	41.33737	-83.8049	679.9	5	684.9
2	41.34081	-83.8049	678.4	5	683.4
3	41.34086	-83.8015	678.3	5	683.3
4	41.34033	-83.8015	678.2	5	683.2
5	41.34021	-83.8017	678.0	5	683.0
6	41.34004	-83.8019	678.1	5	683.1
7	41.34004	-83.8024	678.7	5	683.7

Vertex/ID	Latitude (deg)	Longitude (deg)	Ground Elevation (feet)	Height Above Ground (feet)	Total Elevation
8	41.33967	-83.8025	678.5	5	683.5
9	41.33915	-83.8030	678.9	5	683.9
10	41.33795	-83.8036	678.5	5	683.5
11	41.33738	-83.8042	678.7	5	683.7

Table 4: Juliet Solar Array 03 vertices

Vertex/ID	Latitude (deg)	Longitude (deg)	Ground Elevation (feet)	Height Above Ground (feet)	Total Elevation
1	41.33577	-83.8338	678.1	5	683.1
2	41.3363	-83.8338	678.2	5	683.2
3	41.3363	-83.8342	678.0	5	683.0
4	41.33897	-83.8343	677.6	5	682.6
5	41.33904	-83.8280	679.2	5	684.2
6	41.3372	-83.8280	679.2	5	684.2
7	41.33717	-83.8251	678.4	5	683.4
8	41.33588	-83.8251	678.6	5	683.6

Table 5: Juliet Solar Array 04 vertices

Glint & Glare Analysis

Juliet Solar Project Discrete Observation Points

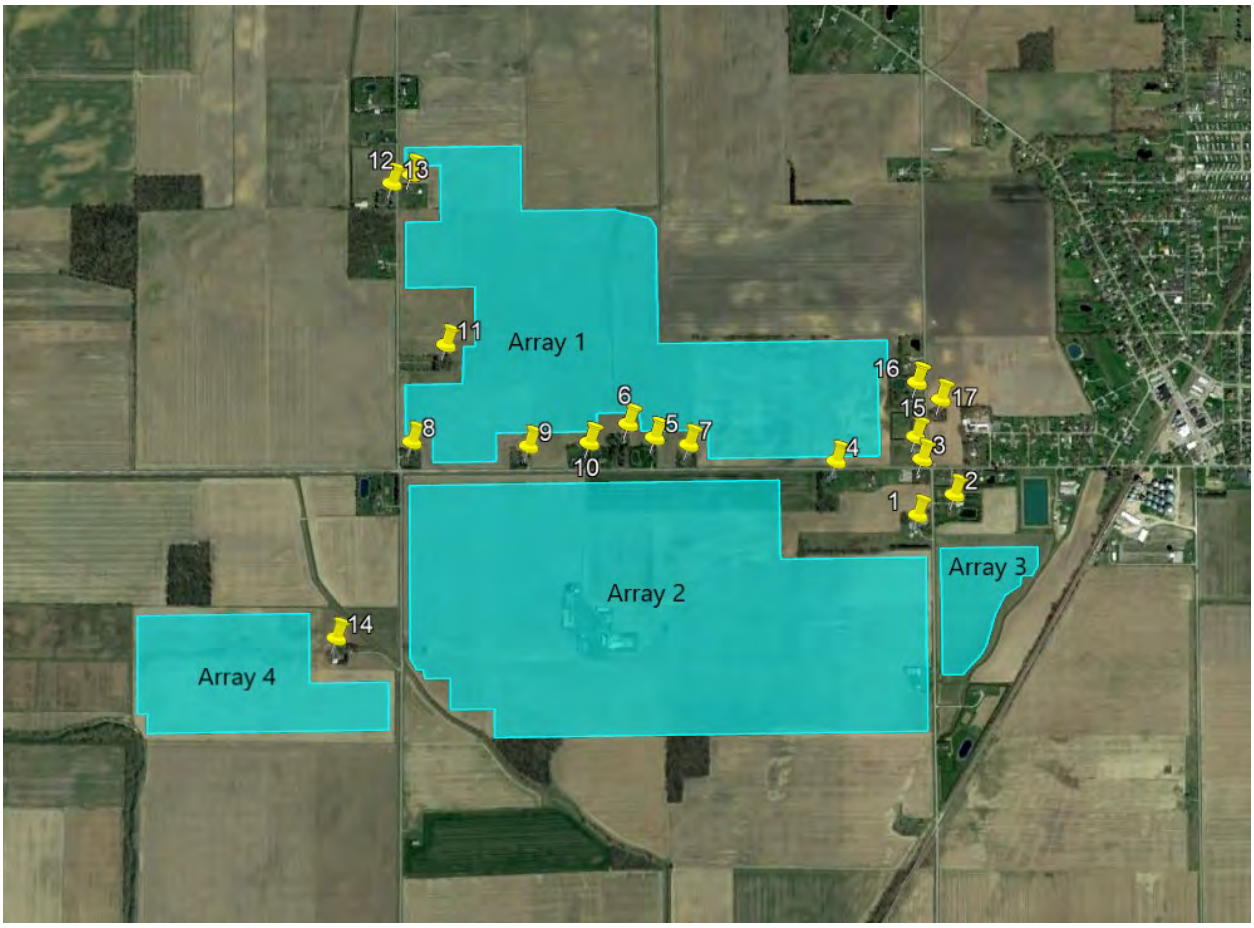

Figure 2: Locations of Discrete Observation Points with respect to Juliet Solar arrays

Vertex/ID	Latitude (deg)	Longitude (deg)	Ground Elevation (feet)	Height Above Ground - First Story (feet)	Total Elevation - First Story (feet)	Height Above Ground - Second Story (feet)	Total Elevation - Second Story
1	41.34126	-83.8060	686.3	8	694.3	16	702.3
2	41.34183	-83.8047	683.6	8	691.6	16	699.6
3	41.34280	-83.8058	680.9	8	688.9	16	696.9
4	41.34278	-83.8090	681.2	8	689.2	16	697.2
5	41.34342	-83.8155	679.3	8	687.3	16	695.3
6	41.34378	-83.8166	677.8	8	685.8	16	693.8
7	41.34323	-83.8144	679.5	8	687.5	16	695.5
8	41.34328	-83.8245	678.9	8	686.9	16	694.9
9	41.34319	-83.8202	679.3	8	687.3	16	695.3
10	41.34322	-83.8180	678.1	8	686.1	16	694.1
11	41.34594	-83.8232	682.0	8	690.0	16	698.0

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Vertex/ID	Latitude (deg)	Longitude (deg)	Ground Elevation (feet)	Height Above Ground - First Story (feet)	Total Elevation - First Story (feet)	Height Above Ground - Second Story (feet)	Total Elevation - Second Story
12	41.35065	-83.8246	679.5	8	687.5	16	695.5
13	41.35042	-83.8253	680.3	8	688.3	16	696.3
14	41.33793	-83.8272	684.1	8	692.1	16	700.1
15	41.34342	-83.8060	681.1	8	689.1	16	697.1
16	41.34492	-83.8060	689.5	8	697.5	16	705.5
17	41.34451	-83.8052	684.3	8	692.3	16	700.3

Table 6: Juliet Solar Discrete Observation Receptors

Juliet Solar Routes

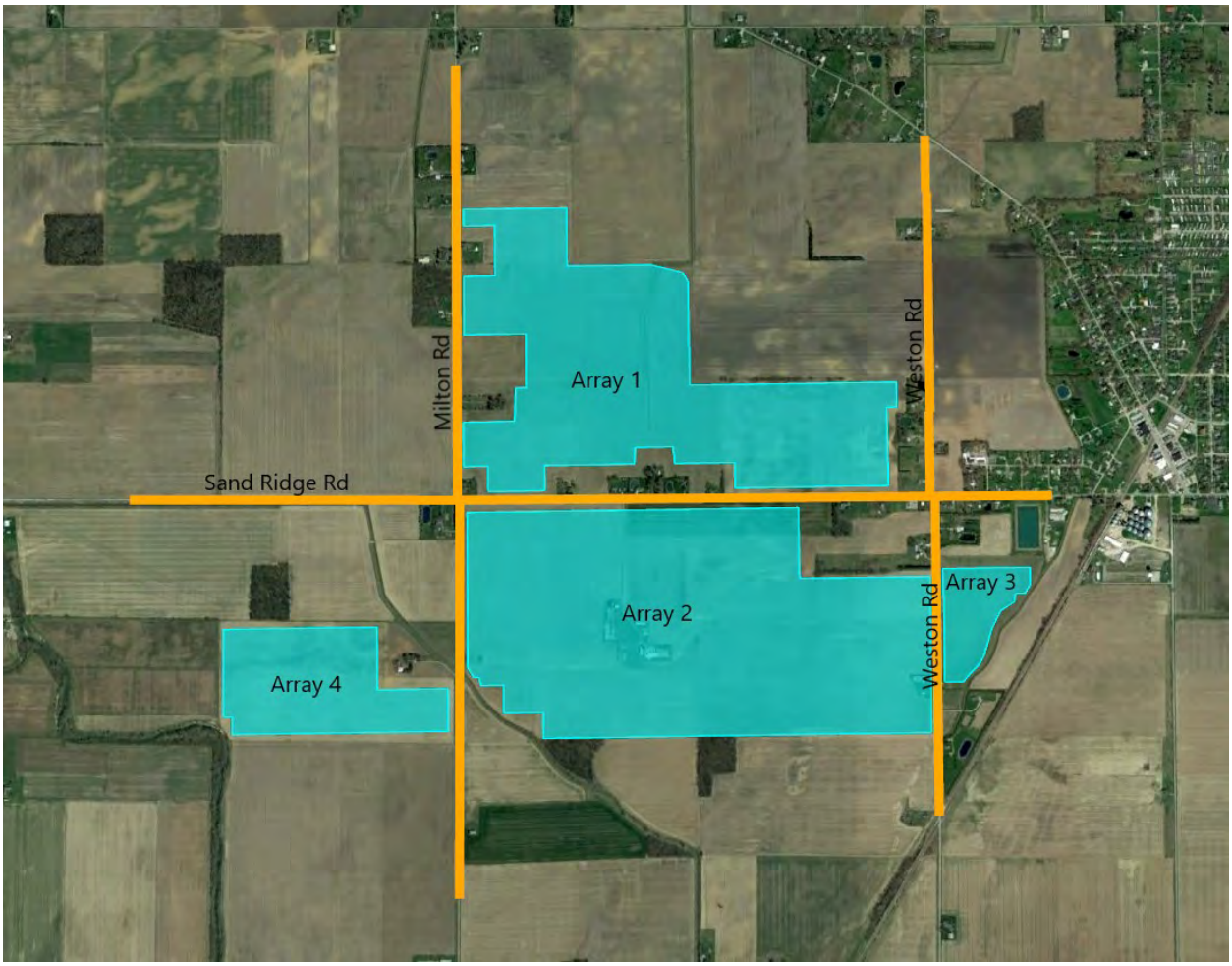

Figure 3: Locations of Routes with respect to Juliet Solar arrays

Vertex/ID	Latitude (deg)	Longitude (deg)	Elevation	Height Above Ground - Cars (feet)	Total Elevation - Cars (feet)	Height Above Ground - Trucks (feet)	Total Elevation - Trucks (feet)
1	41.34291	-83.8442	678.4	4	682.4	8	686.4
2	41.34291	-83.8248	680.9	4	684.9	8	688.9
3	41.34303	-83.8032	681.1	4	685.1	8	689.1

Table 7: Juliet Solar Observation Receptors – Sand Ridge Rd

Vertex/ID	Latitude (deg)	Longitude (deg)	Elevation	Height Above Ground - Cars (feet)	Total Elevation - Cars (feet)	Height Above Ground - Trucks (feet)	Total Elevation - Trucks (feet)
1	41.34847	-83.8056	677.7	4	681.7	8	685.7
2	41.34299	-83.8055	681.3	4	685.3	8	689.3

Table 8: Juliet Solar Observation Receptors – Weston Rd

Vertex/ID	Latitude (deg)	Longitude (deg)	Elevation	Height Above Ground - Cars (feet)	Total Elevation - Cars (feet)	Height Above Ground - Trucks (feet)	Total Elevation - Trucks (feet)
1	41.34299	-83.8053	681.9	4	685.9	8	689.9
2	41.33807	-83.8053	679.9	4	683.9	8	687.9
3	41.3333	-83.8052	684.6	4	688.6	8	692.6
4	41.33342	-83.8052	682.6	4	686.6	8	690.6

Table 9: Juliet Solar Observation Receptors – Weston Rd

Vertex/ID	Latitude (deg)	Longitude (deg)	Elevation	Height Above Ground - Cars (feet)	Total Elevation - Cars (feet)	Height Above Ground - Trucks (feet)	Total Elevation - Trucks (feet)
1	41.35382	-83.8250	678.1	4	682.1	8	686.1
2	41.34297	-83.8248	680.9	4	684.9	8	688.9
3	41.33356	-83.8245	679.2	4	683.2	8	687.2

Table 10: Juliet Solar Observation Receptors – Milton Rd

Glint & Glare Analysis

Results

7X Energy utilized the previously stated inputs to analyze potential glint and glare at various points along the roadways and at houses utilizing the SGHAT route tool for roadways and discrete observation points for residents.

If glare is detected, "Glare Occurrence Plots" are generated by SGHAT. The plots show when glare can occur (as viewed from the prescribed observation point) throughout the year. The color indicates the potential ocular hazard. The colors are defined as:

- Green: Low potential for temporary after-image
- Yellow: Potential for temporary after-image
- Red: Potential for permanent eye damage

The results of this analysis indicate no predicted glare on the roadways or houses.

Receptor	Green Glare (minutes/year)	Yellow Glare (minutes/year)	Red Glare (minutes/year)
Residences First Story	0	0	0
Residences Second Story	0	0	0
Sand Ridge Rd	0	0	0
Weston Rd	0	0	0
Weston Rd	0	0	0
Milton Rd	0	0	0

Table 11: Juliet Solar Glint and Glare analysis Summary

Conclusion

There was no predicted glare for residences with an estimated single story viewing height of 8 feet or a second story viewing height of 16 feet as a result of the project. Additionally, there was no predicted glare from the solar arrays along the routes mentioned above for cars and large trucks. 7X Energy has applied FAA's glint and glare standards to vehicular operations due to the absence of non-aviation regulatory guidelines.

As noted in the assumptions, the glint and glare analysis does not consider vegetation, fencing, or other natural obstructions. This glint and glare report has taken the most conservative approach in calculating the possibility for glint and glare.

Summary: Application Exhibit N - Glint and Glare Analysis electronically filed by Teresa Orahood on behalf of Dylan F. Borchers