

Jason Mah
Technical Lead
Green Cat Renewables Canada Corporation



Melissa Morrison
Project Development Manager
Metlen Energy & Metals

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Georgetown Solar + Energy Storage Project – Solar Glare Hazard Analysis Final Project Update

Georgetown Solar Inc. (Georgetown Solar), has approval to construct and operate a photovoltaic (PV) electricity generating power plant with a capacity of up to 230-megawatt (MW_{AC}) and a battery energy storage system (BESS) with capacity of up to 200-megawatt-hour (MWh), located approximately seven kilometers northwest of the hamlet of Mossleigh, Alberta, designated as the Georgetown Solar + Energy Storage Project (the Project).¹

Green Cat Renewables Canada Corporation (GCR) conducted a Solar Glare Hazard Analysis (SGHA) for the Project in November 2021 (the Previous SGHA),² which was submitted to the Alberta Utilities Commission (AUC) as part of its application in Proceeding 27205. The Previous SGHA concluded that this Project is not likely to have the potential to create hazardous glare conditions for the dwellings or roads assessed. Since the Project approval, Georgetown Solar has updated the Project layout. GCR was retained to update the SGHA to reflect the changes in the Project layout.

The Previous SGHA was completed based on specific design parameters for the Project and assessment methodology, which have the potential to affect the results of the SGHA if altered. To confirm there was no increase in impacts compared with the conclusions of the Previous SGHA, an updated SGHA was completed based on updates made to the Project design, glare assessment software and methodology since 2021. The updated assessment indicates that the potential glare impacts are reduced. The design parameters that could be affected by the final project layout and design are detailed in **Table 1**.

¹ Power Plant Approval 27205-D01-2022, Georgetown Solar + Energy Storage Project, November 02, 2022; and Power Plant Approval 28586-D01-2023, Georgetown Solar + Energy Storage Project and Mossleigh 1051S Substation Time Extension, November 28, 2023.

² AUC Exhibit 27205-X0013, Attachment K – SGHAR.

Table 1 - Glare Impact Resultant of Final Layout and Design Update

Parameter	Potential Glare Effect	Final Layout Specification vs 2021 Layout	Residual Glare Impact
Array Footprint	Potential to affect	The array footprint remains materially unchanged	No change
Orientation	Potential to affect	The azimuth remains at 180° (south)	No change
Fixed Tilt Angle	Potential to affect	The fixed tilt angle remains at 28°	No change
Height of Array Above Ground	Low potential to affect	The array height above ground has decreased minimally (previously 1.3m-3.75m, now 0.6m-2.44m). The decreased minimum height could result in a negligible increase in impacts.	Negligible increase
Assessment Methodology	Potential to affect	Updated software and guidelines have been used	Reduction in impacts
Overall			Reduction in impacts

As confirmed in the table above, the principal design parameters that may impact the glare results have only changed minimally, and the revisions lead to an overall reduction in the potential glare impacts. The current version of the GlareGauge software and Transportation and Economic Corridors guidelines³ have been used for the final project update. The refinements in assessment methodology from the Previous SGHA reduce the potential glare impacts from the Project.

The final project update will result in a decrease in glare impacts from those previously approved by the AUC, generally characterized by a decrease in annual predicted yellow glare. Therefore, the final design is considered to have no increased impact on the SGHA, and as such, the conclusions of the SGHA have not changed. GCR concludes that the potential solar glare impact of the Project, based on the final Project update, remains consistent with the AUC approval.

Kind regards,



Jason Mah

Technical Lead, Green Cat Renewables Canada Corporation

³ Assessment requirements for solar development near provincial highways (Transportation and Economic Corridors, December 2021).

This document has been prepared by Green Cat Renewables Canada Corporation. The material and data in this report were prepared under the supervision and direction of the undersigned.



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Jason Mah, P.Eng.

This solar glare hazard analysis is being issued with professional engineering authentication. The information contained in this report, to which the engineering authentication applies, is deemed complete for the intended purpose.

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