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Land Use Screen Workshop Comments from GridLiance West

Additional submitted attachment is included below.

November 1, 2022

RE: IEPR Land-Use Screen Workshop

TO: California Energy Commission, California Public Utilities Commission, and California Air Resources Board

GridLiance West (GLW) is a Participating Transmission Owner (PTO) in the California Independent System Operator (CAISO) that owns and operates approximately 165 miles of 230-kilovolt (kV) high-voltage transmission lines and related substation infrastructure located in rural Southern Nevada. The Southern Nevada region served by GLW offers diverse and substantial renewable resource capability. At present, over 30 gigawatts (GW) of solar/storage hybrid, wind, and geothermal resources have submitted requests into the CAISO interconnection process or received executed interconnection agreements to interconnect to the GLW system.

GLW appreciates the significant effort that the California Energy Commission (CEC), California Public Utilities Commission (CPUC), and California Air Resources Board (CARB) have put into developing robust and realistic land-use screens for California, and we appreciate the opportunity to offer these comments in response to the Draft Staff Report on Land-Use Screens for Electric System Planning (Draft Report) and discussion at the workshop held on October 10, 2022 (October Workshop).

Summary of Comments

The Draft Report recognizes the aggressive goals of Senate Bill 100 (SB 100) and California's increased Renewable Portfolio Standards (RPS) and the important environmental, land-use, and physical characteristics of the land that must be considered in electric system planning.¹

GLW applauds Staff for their tremendous work on enhancing the land-use screens. GLW's comments focus on the need to put in place screens that are effective at planning the CAISO's

¹ Draft Report at 9.

electric grid for those portions where renewable supplies or storage would be located *outside* of California yet are part of the CAISO grid.

GridLiance West's service area is predominantly located outside of California in Nevada. Californians can benefit significantly from prudent development in this area. Without adequate land-use screens for this area, the CEC, CPUC, and CAISO cannot effectively consider trade-offs with siting in these locations. GLW's comments focus on the need for putting in place better screens, or decision criteria, for the GLW service area, as well as recommendations for how that could manageably be accomplished.

California needs to consider all available locations on the CAISO grid

Suitable land that is available for renewable development in California is becoming more and more scarce. In many instances, the CEC's land-use screen enhancements refine exclusion areas and thereby identify additional portions of land potentially available for renewable development. However, these areas often face opposition given attributes not yet identified in the CEC screens (e.g., screens reflecting Northern California forests and California beaches), as raised by Shannon Eddy during the webinar.²

At the same time, substantially higher levels of available land exist adjacent to the California border, which also have very high commercial interest for renewable and storage development. Numerous developers are pursuing solar and solar-storage hybrid facilities in Nevada. GLW currently has approximately 30 GWs of renewable development within its footprint that are in the CAISO queue. Attachment 1 shows – both visually and in tabular form – the extensive developer activity in Nevada in GLW's service area. Attachment 2 contains a larger form of the table. These Bureau of Land Management applications are indicative of the strong level of interest in renewable development in this region.

² Workshop Recording at 3 h 19 m 24 s – 3 h 22 m 37 s available [here](#).

The CEC, CPUC, and CAISO need mechanisms to consider development in these areas, as is done with CAISO queue information.

The land-use screens used to date for Nevada are unrefined and overly exclude many suitable development sites and opportunities

The CEC proposes to use Western Electric Coordinating Council (WECC) land-use screens to determine mapping in the portfolios it develops.

At this time, the land-use analysis does not apply to out-of-state renewable resource potential that may be used to serve California load. Consistent with the approach currently used in busbar mapping and proposed for use in the CPUC's Inputs & Assumptions for the 2022-23 IRP Cycle, CEC staff recommends using publicly available spatial datasets from the Western Electricity Coordinating Council (WECC) Environmental Risk Dataset to map resources outside of California.³

It is not clear how the CEC proposes to use the WECC Environmental Risk Dataset to map the resources. However, it would be inappropriate for the CEC to treat the WECC risk screens – especially WECC areas identified as less than Risk Level 4 (e.g., Risk Level 3, Risk Level 2, and Risk Level 1) – as if they represented lands in *exclusion areas*. This is because WECC Risk Levels 3, 2, and 1 only indicate that there may be sensitive qualities to a particular location, but the risk labels do not take into consideration available mitigation techniques.

Furthermore, the WECC screens have several limitations. These were outlined in the WECC-wide Environmental Recommendations for Transmission Planning – Final Report of the Environmental Task Force (WECC Screening Report) issued on May 6, 2011.⁴ Data sets have varying degrees of granularity⁵ and may be too gross to accurately reflect available land use. In the most general

³ Draft Report at 22.

⁴ Available at this [link](#).

⁵ WECC Screen Report, 31-33.

sense, the data sets were developed for the planning of inter-regional transmission lines and may thereby have granularity only at the level warranted for transmission corridors and not simply for renewable generation siting which may be able to interconnect via smaller generation tie lines.

The report also indicated that the exclusion areas were found to be overly conservative.⁶ For example, when four of the exclusion areas were further examined, the study group found that sufficient non-precluded lands remained within those “exclusion areas” which would not only allow renewable generation projects to be sited but would also allow transmission corridors to be sited.⁷ And given that the WECC Risk Levels were intended for large-scale transmission projects, even linear barriers such as a narrow waterway would, in the WECC Risk Levels, render a large portion of land as exclusionary when significant lands may still exist which are ideal for renewable generation siting.

Significant renewable and storage development potential exists in and around the GLW portion of the CAISO grid

The GLW portion of Southern Nevada has significant amounts of accessible and buildable land. This portion of the CAISO grid offers lower-cost and faster renewable generation construction with minimal environmental impacts to be managed. This desert portion of Nevada also has essentially no wildfire risks to challenge the resilience of generating resources and transmission infrastructure. Concerning solar and storage development, the resource potentials captured in the CPUC’s Integrated Resource Planning (IRP) process to date are immense in Southern Nevada. Transmission limits – essentially the only limiting development feature for solar⁸ and storage in this region – can be addressed by very cost-effective transmission element upgrades. For example, in its comments in response to the CAISO’s 20-year Transmission Study, GLW discussed

⁶ *Id.* at 33 - 34.

⁷ *Id.* at 34.

⁸ GLW comments to the CAISO in response to the CAISO’s Draft 20-Year Transmission Outlook report, which is available [here](#).

how the CAISO identified a number of projects indicated by the Starting Point portfolio to cost between \$8 and \$12 billion. However, within the GLW system, over 2,000 MW of additional wind, solar, or geothermal energy could be interconnected and fully deliverable for an incremental cost of \$0.26 billion, and it could be built out within 36 months.

In short, significant resource potential exists in this CAISO portion of Nevada, where even existing limitations on transmission are minimal in comparison to those needed in other parts of the CAISO to achieve target greenhouse gas (GHG) reductions.

The availability and desirability of land for development in Nevada has created significant commercial interest in renewable development

Given the desirable attributes of development of resources in the GLW footprint, it is not surprising that commercial development interest there is extremely high. Within the CAISO queue, there are over 7 GW of active generation interconnection requests.⁹ In addition to the 7 GW of active queue request development, other early-stage development in this area includes over 20 GW of renewable generation and storage resources.¹⁰ This commercial development activity demonstrates that this region is not constrained by land-use limitations, as might be suggested by treating the WECC level 3 and 4 risks categories essentially as indicative of representing strict development exclusions. Rather, any necessary land-use selection and mitigation requirements for Southern Nevada are being cost-effectively managed by developers, suggesting that alternative land-use screens are warranted by the CEC to properly reflect the environmental and commercial realities in this portion of the CAISO.

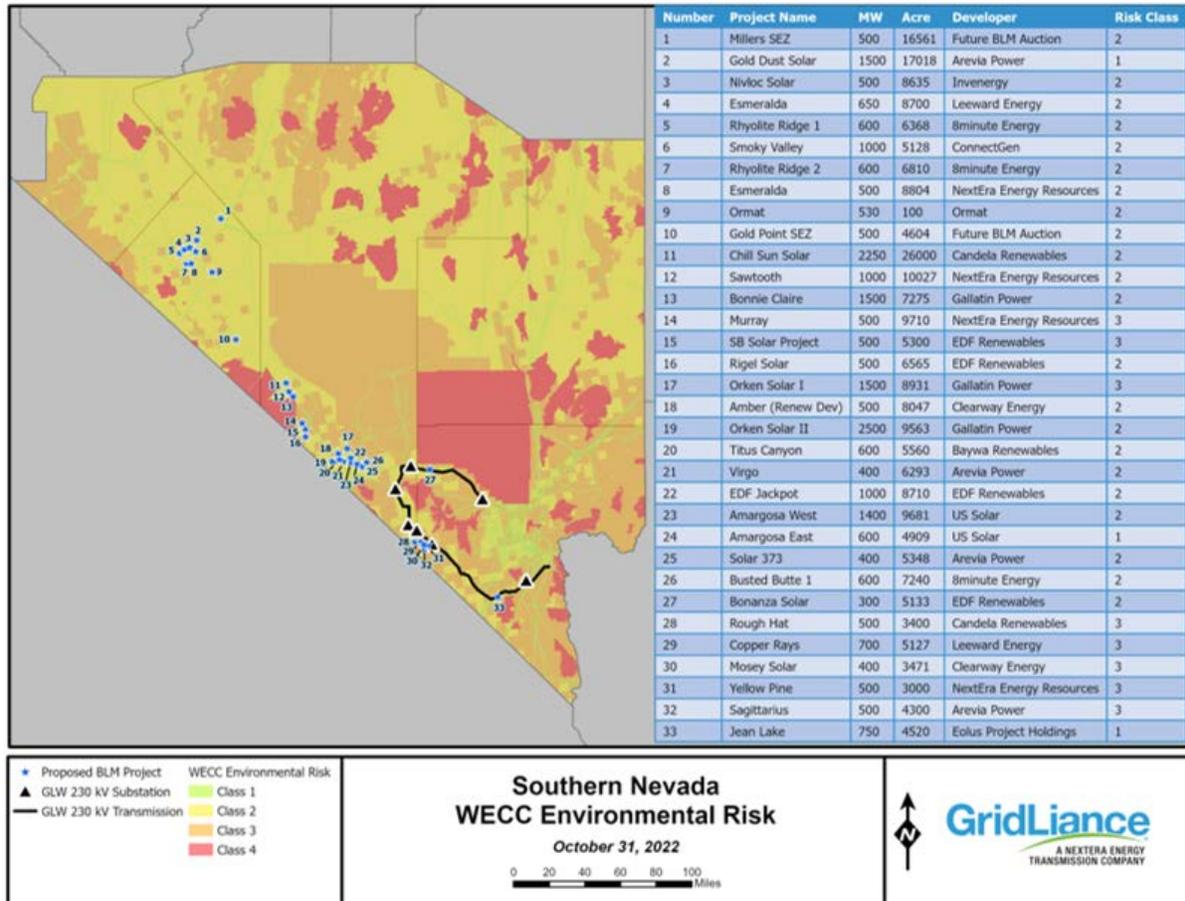
A graphical overlay of the development projects with the WECC risk areas illustrates that significant development can occur despite the need to manage land considerations. Figure 1 below shows the development currently underway within Southern Nevada, layered on top of

⁹ Please refer again to Attachments 1 and 2 for commercial development details.

¹⁰ *Id.*

the WECC land use screens. The figure demonstrates that significant land is available despite the differing WECC screens developed for this region. In short, the graphic shows that it would be incorrect to assume that development in Southern Nevada is infeasible by only considering these WECC land screens.

Figure 1 - WECC Land Use Screens overlayed on Southern Nevada Development



A comparable methodology for land use screens to the one developed by the CEC for CA should be used for the area in and around the GLW footprint

GLW recommends that the CEC not use the WECC screens and rather employ compatible land-use screen metrics to those the CEC has proposed for California. Doing so will equate the land use evaluations across the California and Southern Nevada portions of the CAISO grid.

Recognizing the extensive effort the CEC is putting into enhancing California's land use screens, GLW offers for the CEC's consideration, and that of other stakeholders, screening data comparable to what is being proposed by the CEC in its proposed land use screens Appendix D.

GLW performed a land use screening analysis for Southern Nevada, using the same methodology as the CEC draft report Appendix D, by excluding LandScan areas (D-1), and excluding Terrestrial 30x30 Conserved Areas (D-2).¹¹ (Attachment 3 provides a listing of the data sources used in generating the Nevada land use screens.)

The land use data and screen results are offered for the CEC and other stakeholders.¹² GLW would be pleased to work further with the CEC staff and any interested stakeholders in the finalization and adoption of such CAISO-Southern Nevada screens.

Summary

GLW appreciates the significant effort of the CEC staff to develop robust land use evaluation screens for the CEC's SB 100 planning processes and for use by the CPUC staff in the IRP and other related planning processes. GLW seeks the CEC's endorsement of the comparable proposed screen data layers summarized herein and provided in conjunction with this comment submittal. Implementation of such data screens will levelize the planning processes across CAISO and ensure the most effective resource development areas are identified to meet California's carbon and electricity reliability goals.

Sincerely,

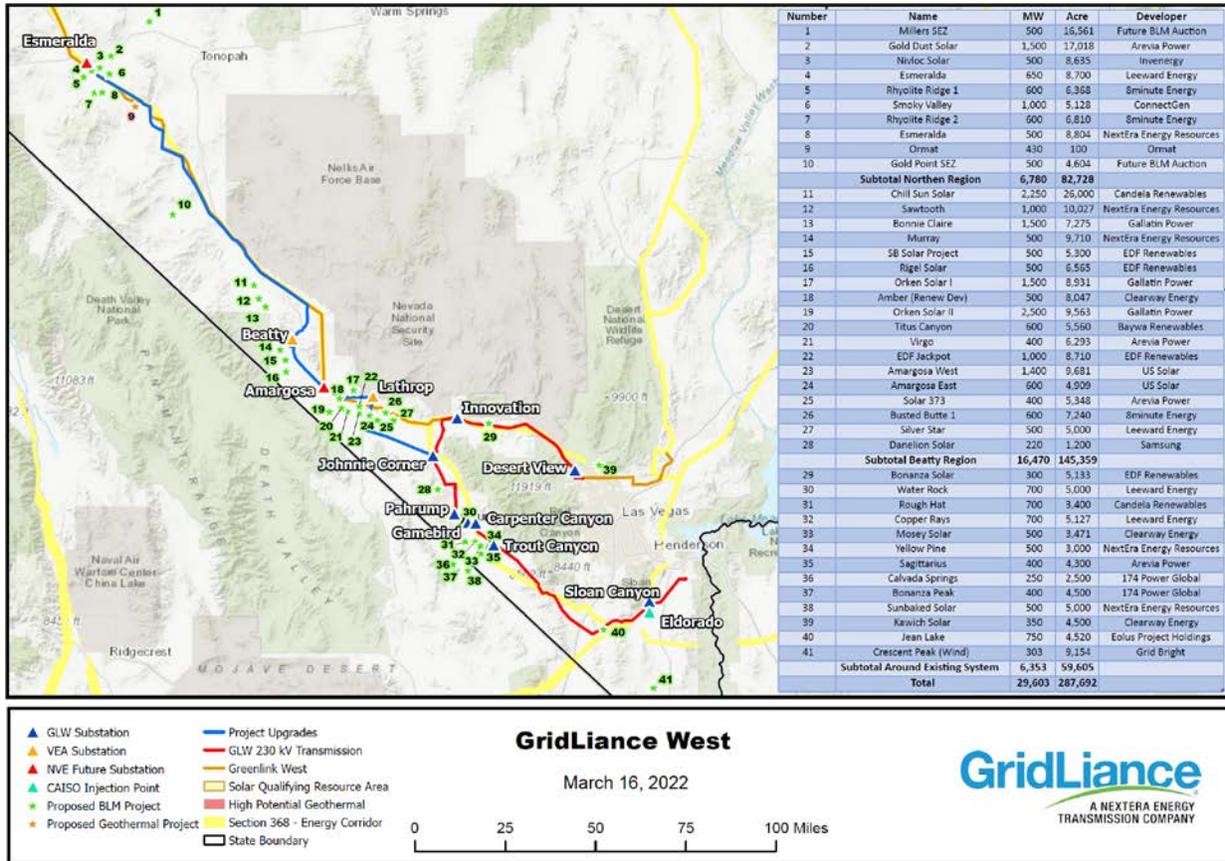
/s/ Alona Sias

Alona Sias
President, GridLiance West

¹¹ GLW has not been able to identify a Nevada equivalent data set for exclusions included in the CEC's D-3 data tables.

¹² Data sets are available for access and download here: <https://www.gridliance.com/companies/gridliance-west/cec.html>.

Attachment 1 Commercial Development in and Around GridLiance West Service Territory



Attachment 2
Detail of the GLW Territory Development Tabular Data

Number	Name	Developer	MW	Acre
1	Millers SEZ	Future BLM Auction	500	16,561
2	Gold Dust Solar	Arevia Power	1,500	17,018
3	Nivloc Solar	Invenergy	500	8,635
4	Esmeralda	Leeward Energy	650	8,700
5	Rhyolite Ridge 1	8minute Energy	600	6,368
6	Smoky Valley	ConnectGen	1,000	5,128
7	Rhyolite Ridge 2	8minute Energy	600	6,810
8	Esmeralda	NextEra Energy Resources	500	8,804
9	Gold Point SEZ	Future BLM Auction	500	4,604
10	Alum Geothermal	Ormat	530	
	Subtotal Northern Region		6,880	82,628
11	Chill Sun Solar	Candela Renewables	2,250	26,000
12	Sawtooth	NextEra Energy Resources	1,000	10,027
13	Murray	NextEra Energy Resources	500	9,710
14	Orken Solar I	Gallatin Power	1,500	8,931
15	Orken Solar II	Gallatin Power	2,500	9,563
16	Rough Hat	Candela Renewables	500	3,400
17	Copper Rays	Leeward Energy	700	5,127
18	Mosey Solar	Clearway Energy	400	3,471
19	Yellow Pine	NextEra Energy Resources	500	3,000
20	Sagittarius	Arevia Power	500	4,300
21	Bonnie Claire	Gallatin Power	1,500	7,275
22	SB Solar Project	EDF Renewables	500	5,300
23	Rigel Solar	EDF Renewables	500	6,565
24	Busted Butte 1	8minute Energy	600	7,240
25	Solar 373	Arevia Power	400	5,348
	Subtotal Beatty Area		13,850	115,257
26	Amargosa East	US Solar	600	4,909
27	Amargosa West	US Solar	1,400	9,681
28	Virgo	Arevia Power	400	6,293
29	Titus Canyon	Baywa Renewables	600	5,560
30	Bonanza Solar	EDF Renewables	300	5,133
31	EDF Jackpot	EDF Renewables	1,000	8,710
32	Amber	Clearway Energy	500	8,047
33	Jean Lake	Eolus Project Holdings	750	4,520
	Subtotal Around Existing System		5,550	52,853
	Total		26,280	250,738

Attachment 3
Sources of Data for Nevada Land Use Screens

Category	Source
Population Buffers	https://catalog.data.gov/dataset/tiger-line-shapefile-2017-2010-nation-u-s-2010-census-urban-area-national
Railroads	https://data-usdot.opendata.arcgis.com/maps/north-american-rail-network-lines
Water Features	https://www.arcgis.com/home/item.html?id=0eb5f7b586ea4e08b5003b3554032453
Slope	https://www.sciencebase.gov/catalog/file/get/5540ebe2e4b0a658d7939626?f=disk_9c%2F24%2Fd5%2F9c24d5062c98ecf82988b4e6c827d07c374e9776&transform=1&allowOpen=true
Airports	https://data-usdot.opendata.arcgis.com/datasets/usdot::runway-lines/explore?location=9.547223%2C-1.628750%2C2.67
Flood Zone	https://hazards.fema.gov/femaportal/wps/portal/NFHLWMS
Military 1	https://wwmp.anl.gov/maps-data/
Military 2	https://adds-faa.opendata.arcgis.com/datasets/dd0d1b726e504137ab3c41b21835d05b_0/explore?location=21.666817%2C-6.828018%2C2.83
Military 3	https://ais-faa.opendata.arcgis.com/datasets/0c6899de28af447c801231ed7ba7baa6_0?geometry=-154.771%2C19.488%2C141.948%2C62.840
Military 4	https://catalog.data.gov/dataset/military-installations-ranges-and-training-areas
Active Mines	https://mrdata.usgs.gov/mineplant/
Conservation Easements	https://www.conservationeasement.us/downloads/
Inventoried Roadless Areas	https://www.fs.usda.gov/detail/roadless/2001roadlessrule/maps/statemaps/?cid=stelprdb5400185
PAD Database	https://www.sciencebase.gov/catalog/item/622262f0d34ee0c6b38b6bd7
BLM National Conservation Lands	https://www.blm.gov/programs/national-conservation-lands/nevada
Greater Sage Grouse Habitat Conservation Area	https://www.arcgis.com/home/item.html?id=c436a3d49b204edbbab5ac14e9216d8f#!
American Indian and Alaskan Native Land Area Representations (LAR)	https://biamaps.doi.gov/bogs/datadownload.html