RFP for Owner's Engineer for Solar + Storage Development of City of Glendale Properties and Distributed Energy Resources Penetration Impact Studies

City of Glendale Responses to Proposer Questions

1. Are the Tesla batteries (75MW) and Wartsilla Engines (93MW) included in this Owner's Engineer (OE) scope, or is the scope limited to the 40-50MW of distributed generation + storage? 75MW Tesla Batteries and 93MW Wartsilla engines are not part of the scope. This RFP contemplates the development of solar and storage resources at City-owned properties other than at the Grayson Power Plant site.

2. With regards to the GWP City-owned property site list: (1) Will GWP provide contact information for primary Point-of-Contact at the sites? Yes, upon award of contract. (2) How was the current list developed? GWP compiled a list of City-owned properties with potential for PV development. (3) What information will be provided about the sites? Since all the sites are unique, the available information for each site may also be unique. However, information related to the electrical distribution tie-in will be provided.

3. Does GWP have preferred vendors? No.

4. How does GWP expect to purchase/finance the projects? Through the City's annual budgetary process or through a City bond financing, to be determined by the City Council. Does the OE need to include financing costs in the proposal? No. If so, what level of financial model does GWP expect? Not applicable. The Owner's Engineer is not expected to finance the cost of the development.

5. Are technical engineering drawings (site plans, single-line diagrams) and utility data (utility bills: 12 months, 15-minute interval data) available for each site, and will these be made available to the selected consultant? If available.

6. Please provide detail on the level of technical specifications requested. Does GWP want "ready-to-ship" RFP documents that are actionable with little additional effort by GWP? Yes. Or, is GWP expecting technical guidelines that its own staff will translate into RFP language? No.

7. What level of access will GWP provide to the Owner Engineer in terms of reviewing existing models and? We can provide the distribution model. What system modeling software is currently used by GWP? Synergi.

8. Will the 200kW rooftop potential analysis require simulation and specific study for the grid impacts? Any new DER may require study for grid impact. Or is the study more intended on identification of possible rooftops supporting 200kW PV Systems? Is this effort separate from the initial study of DER penetration and growth? Yes, this is separate.

9. How many feeders are expected to require hosting capacity analysis? 104 feeders. Is the intent to provide min/max zonal hosting capacity values, profile based (576/8760) nodal values or some

combination of the two? This approach may vary between proposers. Therefore, it is the responsibility of the proposer to determine the best practice for the application.

10. As per the RFP Scope of work, the consultant is to conduct a distributed solar penetration analysis on GWP's distribution system based on established methodologies adopted by the National Renewable Energy Laboratory ("NREL"). Could you please clarify methodologies; is GWP referring to tools, practices or both? Practices.

11. Does "optimum" mean minimum site utility bill or maximum power generation capability of the site? Maximum power generation. The need to replace generation would imply emphasis on maximize export.

12. Is there an interest by the City to look at City-owned vs Power Purchase Agreement (PPA) financing model comparison? No, the City is interested in City-owned PV systems at this time.

13. As per the California State License Board (CSLB) criteria, a C-46 license is a solar contractor installs, modifies, maintains, and repairs thermal and photovoltaic solar energy systems. A licensee classified in this section shall not undertake or perform building or construction trades, crafts, or skills, except when required to install a thermal or photovoltaic solar energy system. Since funding for this RFP is to develop a site assessment and DER Penetration Impact Analysis study not deployment it does not seem a C-46 license contractor is necessary. Rather a PE (structural and electrical) would be sufficient for this phase. Please confirm if C-46 license contractor is still required and why. Please reference Addendum No. 1.

14. What is the expected term of this analysis? As stated in the RFP, the expected minimum term for the DER Penetration Impact Analysis is four (4) years. Is it only until 6/30/2021 or will it extend to four (4) years (as needed) as indicated in the RFP? The Site Assessment and Conceptual Plan shall be completed no later than 6/30/2021. Should the Consultant include the extended four (4) years in their proposed budget and schedule? Yes, the four (4) year timeframe is in reference to the DER Penetration Impact Analysis needs as the construction phase of the PV Project is implemented.

15. Is the C-46 Solar Contractor's License required for the role of OE outlined in this proposal? Please reference Addendum No. 1.

16. What modelling software does GWP use for their distribution system studies? Synergi Software. Does the contractor need to complete studies in this software or can we use our own preferred software? Contractor needs to conduct the studies in Synergi software for the distribution feeders and PSLF software for the transmission circuits.

17. What is the total number of distribution feeders in GWP's service area? 47 4KV feeders and 57 12 kV feeders.

18. Is there a page limit for the proposal? No.

19. What is the file size limit for the email submission? 20MB. However, files can also be shared via OneDrive to bsalazar@glendaleca.gov

20. Presumably, a number of sites on the list provided will be eliminated during an initial screening. How many sites should we assume will progress to site survey and conceptual design? Proposers are expected to provide a viable plan for PV installations based on the proposer's expertise. As a result, the number of sites may vary between proposers. Should we provide a per-site price for different site types (roof, ground, canopy) or can GWP provide a portfolio to assume for the purposes of developing a budget? A price per site is not required, but may be useful when budgeting for the construction phase.

21. Does the City have structural drawings for the candidate sites? Would these drawings be made available to the successful proposer? City departments may have drawings for some of these sites and if available, these can be provided to the successful proposer.

22. Most, if not all, of Glendale's existing 69 kV system is modeled in WECC power flow base cases. Does Glendale have a similar short circuit model which includes zero sequence data? Yes.

23. Does Glendale have a supplemental power flow or short circuit system model for any distribution facilities not modeled in WECC base cases, or energized at voltages lower than 69 kV? Synergi.

24. Are protective devices and voltage regulation settings included in the system model? Yes.

25. In what software program is the system model currently created? If there is no system model is there a desired program the model should be created in? It is created in Synergi and PSLF & ASPEN.

26. If the supplemental power flow or short circuit models are not available, is data of Glendale's existing electric infrastructure available to compile power flow and short circuit models of the existing system? Yes. Are GIS maps available for use as a part of the analysis? Yes.

27. Will existing relay settings be made available? Yes.

28. In what data format will the existing relays settings be provided? Text format.

29. Will Transformer No-load and Under-Load Tap-Changer data and settings be made available? We can provide tap changer settings.

30. One bullet on RFP p 3 states, "Assess the cumulative steady state and protection coordination dynamic impact of PV DER from all feeders connected to the same substation bus as needed when feeder PV DER penetrations increase". To assess impact to a bus, will either bus ratings or data to determine bus ratings be provided? Yes.

31. Will there be any need to field collect any data to represent the City of Glendale's existing system in power flow, short circuit or dynamic studies? No.

32. Does Glendale have an existing interconnection standard requirement? Yes, the City's electric service requirements can be found on the City Website: https://www.glendaleca.gov/government/departments/glendale-water-and-power/electric-service-requirements

33. Does Glendale have an Interconnection Application Process? If so, will the contractor be responsible for following it? Yes, the City's public interconnection requirements can be found on the City Website: https://www.glendaleca.gov/government/departments/glendale-water-and-power/solar-education/residential-solar-solutions-program/guide-for-applying-for-interconnection

34. How many sites are on their development list for Task 3.1? As explained in the RFP, please sign and return the Non-Disclosure Agreement located in Attachment C and the list of potential properties will be provided.

35. What is the number of "possible sites for the Consultant's consideration" referred to in section 3.1 of the RFP? As explained in the RFP, please sign and return the Non-Disclosure Agreement located in Attachment C and the list of potential properties will be provided.

36. Can you share the list of potential sites referred to in section 3.2 of the RFP? As explained in the RFP, please sign and return the Non-Disclosure Agreement located in Attachment C and the list of potential properties will be provided.

37. How many Bulk Supply substations (greater than 100kV) do you have, if any? 1.

38. How many Sub-transmission substations (between 30kV and 100kV) do you have, if any? 12.

39. How many Distribution substations (less than 30kV) do you have, if any? None.

40. How many total feeders do you have? 104. How many or what percentage of those needs to be analyzed in the impact analysis? All of the feeders. 100%.

41. What is the power system analysis tool that you use? Cyme? Synergi? OpenDSS? PSSE? Synergi distribution level and PSLF transmission level.

42. Is your power grid modeled in GIS? Yes. If so, who is your GIS system provider? ESRI.

43. What type of metering data do you have? SCADA? MV-90? AMI? We have SCADA for feeder metering in substations and AMI for the customer's meters at the user side.

44. What percentage of your customers have AMI metering? 99% of customers have AMI meters.

45. What percentage of bulk supply substation transformers have metering that records at least hourly demand values? None.

46. What percentage of distribution feeders have metering that records at least hourly demand values? %100 is when using SCADA for metering. We only have %25 digital meters on the feeders.

47. What percentage of distribution substation transformers have metering that records at least hourly demand values? None.

48. What type of data historian do you use? PI.

49. Do you have an ADMS system? If so, who is your ADMS vendor? Yes, by Advanced Control Systems.

50. Do you have a DERMS system? If so, who is your DERMS vendor? No.

51. What does "Value Engineering" refer to in section 3.8? Is it in reference to DG Value Stack elements (Capacity, Voltage, Loss reduction, Ancillary Services, etc.)? The "Value Engineering" reference is defined as an organized effort directed at analyzing designed building features, systems, equipment, and material selections for the purpose of achieving essential functions at the lowest life cycle cost consistent with required performance, quality, reliability, and safety.

52. Is there a "City's contracting requirements" document we can be referred to in regards to the criteria in section 12.1 of the RFP? Please visit the City's website page here for more information regarding contracting requirements: https://www.glendaleca.gov/government/departments/finance/purchasing/rfp-rfq-page

53. Due to COVID-19 and work from home conditions, do you anticipate any special requirements regarding the delivery of the physical copies of the proposal? Will the physical copies be required at all? Arrangements for physical deliveries (other than physical mail) may be made with the representatives listed in the RFP; however, it remains the responsibility of the proposer to ensure the proposal is timely delivered. At this time, the City offices are open by appointment only. If you would like to arrange for hand delivery of your proposal, please contact Bryan Salazar at bsalazar@glendaleca.gov.

54. What software the Glendale Water and Power uses for modeling of GWP entire distribution system? Synergi for distribution and PSLF for transmission.

55. GWP is a member of WECC (Western Electricity Coordinating Council) and operates within the Balancing Area of the Los Angeles Department of Water and Power (LADWP). Does this mean that the consultant will have to use WECC software (GE PSLF) and associated data for steady-state and dynamic analysis? Yes, since the DERs are in the distribution level, it is preferred that the consultant to use Synergi software to analyze the system impact. As the PV loads grow in the system, we need an overall system impact study on the transmission level for which the consultant may use PSLF or ASPEN.

56. Please explain the passage "Conduct a DER hosting capacity analysis for each GWP feeder. Confirm the feeder hosting capacity by distribution modeling of the entire GWP system"? We are expecting proposers to provide the hosting capacity of each feeder by looking at the existing PV and other DER installation on the feeder. Proposers shall then model this in Synergi and confirm.

57. Please explain "Conduct a System Impact Analysis (SIA) for each proposed DER request and identify system improvement needs" On an as-needed basis up to quarterly, the proposer shall conduct System Impact analysis and provide recommendations on system improvements.

58. The Scope of Work is primarily focused on technical feasibility issues. Should economic aspects expected to impact the roadmap such as resource sizing, storage economics, and any necessary cost-benefit analysis be included in the scope of work? This is desirable but not required by the RFP. If Proposer has this capability, this can be specified and priced as an option.

59. The roadmap appears to cover several issues that are not directly related to the scope of work, such as landfill gas generation and Virtual Power plant (VPP). Please clarify what analysis is desired for these items. If the proposed landfill gas generation and VPP projects are approved, then a distribution impact analysis of such projects by OE will be required.

60. On Page 3 of the RFP, DER Penetration Impact Analysis, first bullet; How many substations and feeders total will be included in the analysis? 11 substations, 47-4kV feeders and 57-12 kV.

61. On Page 3 of the RFP, DER Penetration Impact Analysis, second bullet it states: "Perform an interconnection analysis for any large-scale PV DER interconnection request." Is this for DER Interconnection requests from other developers and/or firms for other DER projects outside of City Owned properties? The DER Penetration Impact Studies may include private PV installation in addition to City-owned PV installations. If so, may we submit a unit price for an interconnection analysis, per DER interconnection request, since we do not know the quantity of such requests? Yes, unit pricing for each DER Penetration Impact Study is an acceptable request.

62. On Page 3 of the RFP, DER Penetration Impact Analysis, sixth bullet it states: "Provide a roadmap for future resource decisions, covering issues with future renewable additions, landfill gas generation, Virtual Power Plant (VPP) and storage." This could be a very large scope, depending on the definition. For example, landfill gas generation is not included in the scope of the RFP. Please provide a more defined scope for this roadmap. "If these proposed projects are approved the OE will need to do a penetration impact analysis.

63. On Page 3 of the RFP, DER Penetration Impact Analysis, "What Distribution modelling software will be required to use in performing the DER Penetration Impact Analysis? Synergi.

64. One Page 3 of the RFP, DER Penetration Impact Analysis, Will the City of Glendale be providing their set of existing system models (as well as model databases), and if so will they need any clean-up and/or able to allocate loads? Yes, the city will provide the existing model, and clean-up and load allocation are desired if it is needed.

65. Does the City of Glendale have a list of existing DER's? Yes.

66. Does the City of Glendale have an active DER interconnection queue? No.

67. On Page 4 of the RFP, DER Penetration Impact Analysis (continued), first bullet it states: Conduct a System Impact Analysis (SIA) for each proposed DER request and identify system improvement needs. Is this for DER requests from other developers and/or firms for other DER projects outside of City Owned properties? The DER Penetration Impact Studies may include private PV installation in addition to City-owned PV installations. If so, may we submit a unit price for a SIA, per DER request, since we do not know the quantity of such requests? Yes, unit pricing for each DER Penetration Impact Study is an acceptable response.

68. Please confirm whether the DER Penetration Impact Analysis is intended to cover only the proposed new distributed energy resources, and whether the study should exclude

    (1) customer-side DSM and energy efficiency programs, No
    (2) the 93 MW of Wartsila Internal Combustion Engines (5x18.8 MW) Yes and
    (3) the 50 MW to 75 MW Tesla Battery Energy Storage System (BESS). Yes

    The DER Penetration Impact Analysis is intended to cover only the proposed new distributed energy resources and customer-side DSM and energy efficiency programs.

69. In section 3.0, with reference to DER penetration analysis section and requirement for power flow study and coordination study, does GWP have a current electrical model readily available that will be provided to perform reverse power flow analysis and protection system study. Or is it the intent for the engineer to develop the complete model based on the GWP provided drawings? Yes, we have Synergi model for distribution system that can be provided. However, we don't know if reverse power flow can be done using Synergi.

70. In section 3.3, with reference to easement and ownership coordination, is it the expectation to have the engineer's firm undertake the process or is it the intent that the GWP staff will undertake the effort and engineer to assist in coordination as required. If the expectation is to have the winning firm undertake the process, will ALTA surveys and title reports be provided? GWP will be responsible for conducting easement and ownership coordination and therefore, property entitlements are not part of the consultant's scope of work.

71. In section 3.4 Site Development, it states: The Contractor shall determine the optimal PV system and/or battery energy storage size and configuration for each site and the Contractor shall determine and report on any constraints to develop PV systems at each site. In Section 3.10, Deliverables, it states: PV System site ranking list based on highest PV potential compared to estimated installation cost (highest ROI). Will the "optimal PV system and/or battery energy storage size" and the ROI calculations, be based on the utility cost savings from self-generation and peak demand management for each site? The optimal PV system and/or battery energy storage size and the ROI calculations will be based on the estimated cost of each PV installation

and the maximum power generation for each site. Will the City be providing other "values" for the self-generated kWhs and avoided kWs that might be included in the ROI calculation? Not at this time.

72. In Section 3.4 will structural and electrical drawing for the sites be readily available to facilitate engineer's review of the proposed sites as outlined in this section. City departments may have drawings for some of these sites and to the extent such drawings are available, they can be provided to the selected consultant.

73. Are the new distributed energy resources intended to be located BTM or FOM? This may vary case by case, to be determined for each site

74. Is there a GWP goal/timeline to repower the complete Grayson Power Plant by?
This question does not apply to this RFP.

75. Due to the current COVID situation will Glendale Water & Power allow for electronic copies solely or are physical copies still required? Originals are still required, but the proposer may submit electronic copies and follow up with originals which must be received no later than 24 hours from the Proposal Deadline. Please see Section 11.0 of the RFP. Please see response to Question Number 53 for information regarding arranging for hand delivery of proposals.

76. For the following services the City is seeking: (A) PV system site survey and conceptual design services, (B) Initial DER Impact Study, (C) On Call quarterly DER Impact Study. Is the City requesting lump sum pricing for A only OR A and B only OR A, B and C? Proposals shall include a total price including pricing for each of the components listed in the body of this question. As stated in response to previous questions, for item (B) and (C), unit pricing for each DER Impact study is acceptable.

77. Because the City is considering multiple sites for the PV system site survey and conceptual design services, an efficient work approach factors into consideration the budget for the City has set aside for this project. Can the City share the budget range for this project? No, the City is not sharing the potential budget range for this project at this time.

78. What is the City's driving factor in the design of the system, is this to minimize capital cost? Or is it a long-term cost $/kWh or maximizing the power density? The City's Clean Energy Program is the driving factor for the desire to install PV and battery storage systems on City-owned properties and it is to maximize power density during peak hours while minimizing capital cost.

79. Would a C-10 License be sufficient in place of a C-46 License. A C-10 license would still allow for the entire scope to be completed. As noted in Addendum No. 1, the C-46 Solar Contractor's License is preferred but it is not required.