Kirk of Kildaire Questionnaire

Vendor Questions/Solution

1. Please explain your relevant licenses, insurance, and staff experience. We have multiple w-2 employees with their NABCEP certification, we are licensed general contractors, we have a PE engineer on staff and a w-2 employee with an unlimited electrical license.
2. Provide certificate of insurance and limits. Insurance and GCS License attached
3. How can you demonstrate the financial wherewithal of your company? We've been in business for more than 11 years and have grown every year since we began with over 5,000 projects installed.
4. How long has your company been in business installing solar panels? Over 11 years
5. Do you subcontract any work? No, our on-staff engineer, installers, and electricians are all w-2 employees
6. What 3 or 4 references do you have for similar projects to what is proposed? See commercial reference list attached
7. What assistance will your company provide for utility interconnection application? We will complete the entire application for utility interconnection on your behalf.
8. What assistance will your company provide with the application and attainment of a utility rebate? We can either provide you with all the information necessary to complete the application on your own, or we can complete the application for you.
9. What will be our interface protocol before, during, and post project?

9.1. (Who will be our point of contact) You will have a single point of contact through your sales representative (Greg Olenar) as well as contact/ access to the project manager at each step of the process. Our Operations and Management Department head, Eric Laurer, will monitor your system after installation to ensure it is performing as expected.

9.2. What is the estimated time for start (contract signed) to finish (final acceptance)? ICR approval for a job this size will take approximately 16- 20 weeks. The regulatory process w/ county, state, and utility company takes up a majority of this time.

10. What costs are **not** included in your price? (e.g., interconnection cost with Duke Energy?)This agreement does not include any roof and/or electrical upgrades that may be required by the utility company.
11. Do you foresee any changes in interconnection regulation that could affect how we operate the system? No

11.1. If so, what provisions should we consider to prepare for that? N/A

12. What is your protocol if panels are broken during installation? Panels would be replaced immediately at no cost to the customer.
13. What should be our protocol if panels are broken during the life of the system? You would contact NC Solar Now and we'd work to get the panel replaced right away.
14. What should we expect for disposal costs and recycling resources at end of life? In most cases, the recycling company will remove and dispose of panels. Disposal carries no charge and the removal would be a minimum hourly charge. We anticipate disposal technology to advance in the future, therefore reducing the costs associated with recycling panels.

14.1. Can you include this as an option? N/A

14.2. What guarantees are in place that this will be available in 30 years? N/A

15. If we should want to purchase recycled panels, what can you say about the cost premium and efficiency penalty for doing this? We don't recommend installing/ purchasing recycled panels at this time due to the reduced warranty and minimal cost savings.

16. What on-call service availability will your company provide if needed? We have a dedicated Operations and Maintenance department to manage all service and maintenance requests
17. How long is your labor warranty? We offer a 25 year workmanship warranty.

Panel/Technology Questions

18. Where are your solar panels made? The Q- Cell panels are manufactured here in the US, in Dalton, GA.
18.1. Are US-made panels an option? Yes
19. Can our roof support the weight of the panels? Yes
19.1. Does this include certification from a structural engineer to certify that our roof will support the added load of the solar panels? All roof surfaces are evaluated and signed and stamped by our on staff PE engineer prior to installation.
20. Can the system support snow loads? if so, what? Yes, snow load weight is accounted for in all engineering calculations for each county.
21. Is lightning protection needed for any part of the system? System will be grounded and protected from lightning storms.
22. What are these panels designed to support in terms of weather - e.g. hail damage, hurricane, wind, ice/snow? Manufacturer's warranty and specification sheet included attached.
22.1. Can you provide rating?Q- Cell 420 watt modules have a high-tech aluminium alloy frame, certified for high snow (5400Pa) and wind loads (2400Pa).
23. How will we monitor the panels output, efficiency, and failures? All systems include production monitoring free of charge.
23.1. What does the application look like and will we see the operation of each panel individually or is it a string of panels? You can monitor your system through the SolarEdge mobile app, or with the use of a web browser. Each panel operates individually.
23.2. Can you provide demo or access application or slide deck? N/A
23.3. Provide samples of performance reports possible See example attached
23.4. How is this monitoring system connected (wi-fi, cellular, hardwired ethernet)?TBD after electrical design is completed.
23.5. Is the monitoring system publicly accessible? Only if you choose to do so. Some businesses/ churches opt to have the information displayed for marketing purposes, i.e. casted on a TV screen in their lobby to advertise their environmental stewardship efforts.
23.5.1. Would our data be accessible to others? Only those that are registered under your account in the SolarEdge monitoring platform have access to your system production/ details.
23.5.2. Is it based in the US? Yes
23.5.3. How is it protected? Protected on SolarEdge servers
24. What quality are these panels? Q- Cell 420 watt panels are high performance, monocrystalline, Tier 1 modules, manufactured in the U.S.
24.1. Are there better ones which are more efficient- but cost more? The efficiency rating of the panels we're using is 19.6.
24.2. How do you determine the optimal quality vs. cost for panels for the basis of your proposal? We only select monocrystalline panels that have a strong manufacturers track record and warranty. We use start of the art technology to pre-determine and guarantee the output of the panels.
24.3. Why do you recommend the one you picked for your response? The selected panel is most suitable for the project.
24.4. What is the first-year percentage power loss?At least 98% of nominal power

during the first year.
24.5. What is the subsequent percentage loss each year?After year one, max. 0.54% degradation per year. At least 93.1% of nominal power up to 10 years. At least 85% of nominal power up to 25 years. Refer to data sheet attached.
25. Does the system act as a single unit (string) or does each solar panel act independently or in a group/series? Each panel operates independently.
25.1. If one panel fails, does it take more than one panel out? No
25.2. If one panel has a power drop, how does that effect other panels? It doesn't; each panel operates independently.
25.3. Can we monitor each panel independently?Yes, through your SolarEdge monitoring app.
25.4. How many strings are in your design? TBD after design binder has been created
26. What is the roof attachment/penetration system? Quick Bolt and or Sunmoto-Deck mount as needed.
27. How does your solution avoid leaks? Compression washers/ EPDM seals/ Installer applied sealant
28. Is there any maintenance required for the panels – e.g. cleaning, leaf removal, snow removal? No maintenance is required.
29. The initial design we are proposing is small, but can grow, how would we grow the system? By pre-wiring and sizing the inverters for expansion
30. If we expand the system in the future, will the new panels look different than existing ones? We will install panels of comparable appearance.
30.1. If we expand in the future, would Duke rebates be possible (assuming they exist) up to the maximum 100kW-AC for non-profits? Duke rebate terms are subject to change each year. Please refer to DukeEnergy for more information.
31. Is it better to wait a few years for better inverter technology and panels? Technology is advancing, but manufacturers strive for cross and back compatibility which ensures the congruence of future equipment. There are also opportunity costs associated with waiting. And lastly, there are a variety of incentives available that may not be in the future, e.g., the Duke Energy Rebate.
32. If it were to make sense to replace panels before 30 years (e.g., technology advancements), how would you recommend we do this? You can always contact NCSN for the entire warranty period with any upgrade questions.
32.1. What components would need to be replaced and what would be reused? potential inverter advancements could occur. Upgrading replacing the panels themselves would not be economically viable option before their life expectancy has expired. Possible inverter upgrade. Upgrading the panel before the warranty is not an economical option.

Inverters

33. Provide specifications, picture, size and number of inverters required. See specification sheet attached
34. Why did you specify this type of inverter vs. others? SolarEdge is the best inverter available on the market. They offer module level monitoring and built-in rapid shutdown compliance.
35. Did you size your inverter to be undersized (and thus provide clipping)? We oversized your inverter to support future system additions and to provide you with eligibility for the largest Duke rebate available for non-profit organizations.
36. How efficient is the inverter you selected? 97% - see attached spec sheet attached.
37. Does your inverter include features like a maximum power point tracker (MPPT) to optimize power output?Yes, module level power optimization (which is more effective than maximum power point trackers).

38. Does the Inverter require a wireless connection? No
38.1. Cellular or Wi-Fi?TBD after electrical design is completed
38.2. What if there is no cellular signal where the inverters are located? (e.g. Kirk electrical room) There are hardwired & ethernet options.
39. Can they be located by the existing HVAC units? TBD after electrical design is completed.
39.1. Is there a building code issue with that location? TBD after electrical design is completed.
39.2. If not, where do you recommend, they be located and why? We recommend inverters be located by service equipment and or meter base.
39.3. What is the DC loss from solar panels to inverter if not near the panels? Nominal
39.4. If the inverters are located inside the building – what heat is generated or cooling requirements are there? No additional ventilation is required. The standard working clearances for electrical equipment (usually 3 feet) would apply.
40. If we expand the system - do we have room in same location for additional inverters? TBD after electrical design is completed.
40.1. Does it make sense to “oversize” the inverter if we plan to expand? Yes
40.2. It the Duke Rebate base on Inverter AC output or other? The Duke rebate is based on the manufacturer's nameplate rated kW AC output capability of the inverter.
41. What is your inverter warranty? 25 years; the first 12 years is covered by the manufacturer's warranty, years 13- 25 are covered by NC Solar Now’s warranty, for a total of 25 years.
41.1. Is there a cost to extend this to 20 years? N/A, warranty is 25 years
41.2. Alternatively, what is the cost to buy spare units? N/A 25 year warranty
41.3. What is the cost of replacing an inverter at EOL? Price will be determined at the time of replacement.
42. How and where are electrical connections run from panels to inverter? TBD after electrical design is completed.
42.1. Costs for these electrical connections included? TBD after electrical design is completed.
43. What is required at our main panel? TBD after electrical design is completed.
43.1. If we expand the system what else is required? TBD after electrical design is completed.
44. How are electrical connections run from inverter to power? TBD after electrical design is completed.
44.1. Costs for these electrical connections included?TBD after electrical design is completed.
44.2. If we expand the system, what is required?TBD after electrical design is completed.
45. Is there a power cut off required? Yes
45.1. Where is it located? On the inverter
46. Is there any maintenance required for the electrical system? No