Blooming Grove Non-Wires Alternatives

Orange & Rockland March 13, 2019

1. Overview

O&R's Blooming Grove Request for Proposals (RFP) was released on December 28, 2018. After the initial release date, O&R has adjusted the RFP schedule and added a second round of Q&A. In addition, O&R has identified the need to provide further clarification on the scope in the RFP, and drafted answers to Respondent questions. This document outlines all of the above.

2. RFP Schedule

Due to the complexity of the Blooming Grove Non-Wires Alternatives (NWA) Project, O&R has made the following changes to the RFP schedule – as reflected in the O&R NWA website.

RFP Solicitation Milestones	Completion Date*
RFP Issued by O&R	December 28, 2018
Pre-bid conference call (see details below)	January 17, 2019 (1:00 pm EST)
Clarification questions due to O&R (Round 1)	January 24, 2019 (1:00pm EST)
Responses to clarification questions due to bidders (Round 1)	~~February 6, 2019~~ February 13, 2019
Clarification questions due to O&R (Round 2)	February 27, 2019
Responses to clarification questions due to bidders (Round 2)	March 13, 2019
Deadline to become enabled in O&R/Con Edison procurement system	~~February 21, 2019~~ April 11, 2019
Qualified proposals due to O&R	~~March 7, 2019 (3PM EST)~~ April 30, 2019 (3PM EST)

*O&R reserves the right to change any of the above dates.

3. RFP Clarifications

Based upon questions received and further internal coordination, O&R provides the following clarifications to the RFP.

a. O&R intends to contract with one (1) Respondent, who will offer a solution which provides the total load relief needed, for each of the three circuits (76-1, 76-3, and 76-4), during a worst contingency situation (as outlined in Figures 2.3 and 2.4 of the RFP). The winning solution will provide a microgrid for each of the three circuits, which will have the capability of operating independently.

b. ***(Updated March 13, 2019)*** Figures 2.3 and 2.4 in the RFP provide capacity requirements during a worst contingency situation. Required load support varies as a function of time (i.e., month of the year, day of the week, and hour of the day). As such, O&R has posted the Hourly NWA Capacity Need required by circuit, by day, and by hour, to the O&R NWA website. Proposed solutions must be capable of meeting the capacity need per circuit, at different times of the year. Any hour where the

capacity need is zero, the solution can be used for alternate benefit streams. Respondents should assume this hourly capacity need grows by 1% per year. Lastly, **this data supersedes the following sentence on page 7 of the Blooming Grove RFP**: *"The NWA solution should be available Monday through Friday (five days) per week for the five months of the summer availability period (May – September)."* To be clear, the NWA solution should be available as per the Hourly NWA Capacity Need data.

4. Answers to Bidder Questions, Rounds 1-2

Round 1			
ID	**Category**	**Question**	**Answer**
1	Eligibility	The RFP on page 6 indicates that O&R has backup for 21% of the entire demand. Please provide confirmation that the microgrid needs capacity to island the remaining 79%? Can this backup be met with both generation and load reduction? Is there a limit on how much load reduction would be accepted for islanding mode?	The microgrid needs to island the remaining 79% of the bank load as stated in the RFP, 21% of the bank load can be supported by the available circuit ties with other stations. The 79% of the bank load will remain out of service. There is no backup for the 79% of the bank load. O&R anticipates minimal load reduction opportunities, as the area is predominately a residential area.
2	DERs	Please provide clarification on who will operate the microgrid during normal conditions? During islanding conditions?	As stated in the RFP, upon notification by the company the microgrid needs to be operational within one hour of notification. The specific operating condition will be a collaborative effort to confirm isolation of the island, however the island will be entirely operated by personnel from the microgrid solution bidder / developer.
3	DERs	Does M&V of the solution need to be specific to the circuit? I.e. if there is a solution that is providing load relief across all four circuits, can the load reduction be measured in aggregate, or does O&R need to know the load reduction from the solution at each individual circuit?	O&R needs to understand what the solution provides for capacity support and load reduction for each individual circuit (load profiles), and M&V must be provided for each circuit. The solution proposed has to operate as three separate microgrid as referenced in RFP (page 9 and 10). MWH's (by circuit) are provided in Figure 2.3 and 2.4. for a bank contingency.
4	Eligibility	My question is whether you will consider proposals that do not provide relief for the full 24 hours? I.e. an energy efficiency solution that can contribute to the daytime peak, and can be combined in a portfolio with other solutions providing relief during the nighttime hours.	O&R will only consider solutions which propose to meet the full 24 hour need on all 3 circuits as set forth in the RFP.

5	Evaluation	What is the NPV (net present value) in dollars for the cost of the traditional solution?	The traditional cost will be accounted for by O&R in the evaluation phase once all bids are received.
6	DERs	Please confirm that in 2021 the solution will need to provide in total 15MW and 235MWh and then by 2030 16.8MW and 260MWh? These numbers were stated on the pre-bid call. When I specifically added up the numbers in figures 2.3 and 2.4 I calculated total energy capacity in 2021 of 235.5MWh and 263.4MWh in 2030. Please clarify.	The solution will need to provide 15MW and 235.5 MWh by 2021, and 16.8 MW and 263.4 MWh by 2030.
7	DERs	What is the expected number of times per year the system will be called?	The solution has to be available for utilization throughout the year to address a potential substation transformer contingency (unplanned event). In addition, the solution must be available throughout the year to meet the NWA Hourly Capacity Need required.
8	DERs	Will there be a set time period in between calls?	This predominantly depends on when or if there is a bank contingency. The company may also call a portion of the resources during expected peak periods to reduce transformer operating risk during peak loading periods.
9	DERs	On the pre-bid call, it was said that a "full blown engineering study" is required for the microgrid operations. We did not see that as a listed requirement for submission of a bid. Please confirm if this is required and what the study should include? Or demonstrating ability and compliance with the listed bullets on slide 12 of the pre bid PDF is sufficient?	Since the solution must be for a substantial engineered microgrid, significant and sufficient detail on the design, operation, protection and resiliency of the grid solution needs to be provided in the RFP response. The microgrid must meet the load need detailed in the Hourly Capacity NWA Need posted to the O&R NWA website. High level specifications were provided by the company in the RFP, however, O&R expects respondents to provide adequate and sufficient detail that demonstrates the capability, expertise and previous experience in designing and operating such systems. The company expects that there will be a collaborative effort between O&R and the successful respondent at some point in the future should the project move towards implementation; however, for the initial RFP response, the Respondents should

			provide engineered details, specifications, and proposals for this specific need.
10	DERs	Can you provide specifications of the ORU EMS referenced in the bid documents?	The company's EMS system is a portal to monitor and control its transmission and substation assets. Interfaces with that system are governed by FERC/NERC CIP regulations and are not public information. The company will coordinate with the successful bidder at some future period any information and interface requirements that may be necessary with the company's control systems for status, monitoring and control.
11	Eligibility	Please confirm in front of the meter energy storage solutions are an acceptable solution for this RFP?	Confirmed.
12	DERs	Does ORU allow substation bus interconnections or have any restrictions to interconnecting at substation bus? If bus interconnection is not allowed, can we use existing utility ROWs to interconnect to feeder 76-1-13?	Due to safety, operational, and restoration requirements, O&R will not allow any interconnection directly with the station. Further, while O&R has easements for the land associated with our transmission system, O&R does not own the land. The company will not allow construction within any transmission easement due to access, safety and potential conductor clearance issues.
13	Eligibility	Would proponents be allowed to bid with no existing site control or interconnection?	Yes; however preference will be given to solutions with existing site control and/or interconnection. For solutions without site control or interconnection, adequate advanced investigation on ability to obtain site control, permitting and appropriate interconnection should be vetted and provided as part of the RFP submittal (i.e., signed letter from land owner, initial discussion with the municipality, etc.).
14	Eligibility	Would O&R entertain proposals that would be sited within utility-owned land? If so, are there preferred sites? Are their lease rates to be considered?	O&R may consider solutions proposed to be sited on utility owned land, provided they do not interfere with potential future development and ROW access. Proposals must include any estimated lease costs.
15	Eligibility	Would O&R consider proposals that cover only a portion of their 24 hour need?	No, O&R will only consider proposals which meet the entire need, on each circuit, during a worst contingency scenario.

16	Eligibility	Would O&R consider non-binding proposals?	Yes, O&R will consider all proposals.
17	Agreement	For proposals that take into account merchant revenues, would there be a process in place to allow the projects to have merchant revenues?	Yes. Proposals should include any forecasted wholesale revenues taken into account, along with a scheme for how the Respondent proposes those revenues to be shared, if at all.
18	DERs	What are the coordinates of the sub-station requiring a NWA solution?	Lat.: 41 23'52.62"N Long: 74 11'33.39"W
19	DERs	Where are the gas lines in the affected area?	Route 94 and Route 208 (50-60 lb.) gas distribution system), no gas mains on Round Hill Rd.
20	DERs	Where are the high pressure gas lines in the affected area?	No gas transmission lines in the area.
21	Evaluation	Regarding section 2.3, can you provide a cost estimate on the traditional solution?	The traditional cost will be reviewed through the BCA process once all bids are received.
Round 2			
ID	**Category**	**Question**	**Answer**
22	DERs	Is there a one line diagram from the Blooming Grove substation that can be shared? Additionally any protection scheme details would be helpful.	Please refer to question #12. System configurations and protection schemes are critical information which O&R does not provide publically. O&R expects respondents to propose demonstrated solutions that maintain adequate system protection and selectivity that does not negatively affect system reliability and exposure , and remote and control requirements, equipment, methods, and sensors during the following operating modes: (1) normal operating conditions, (2) island mode (*i.e.*, microgrid picks up load in the event of a contingency scenario on the distribution system), (3) syncing back to the distribution system following a contingency scenario (automatic and manual; without customer interruption), and (4) providing O&R with grid support outside of a contingency scenario.
23	DERs	Can you confirm if meeting a minimum of 4000 amps for the short circuit need would be enough? Also, at what point would this be required? POI or something else? What is the short circuit strength of the grid (69 kV) and the individual feeders	The system fault current can range from 4000 to 7000, depending on the location of the fault. O&R expects the proposal to include demonstrated solutions that maintain adequate system protection and selectivity that does not negatively affect

		at the substation?	system reliability and exposure, including appropriate protection between the inverter and POI and other equipment (i.e., recloser). The scope of this project does not envision interconnection with the transmission system (*i.e.*, 69 kV or other) or into the existing Blooming Grove Subsation. Further, O&R expects respondents to propose control, communication, and protection schemes associated with modes 1-4 detailed in question #22.
24	DERs	What is the expected COD in 2021? We are assuming May 1st, 2021, but please confirm.	Confirmed.
25	DERs	Question 7 of the clarifying questions references that the solution must be available throughout the year to meet a minimum load support required. When will this information be released? Will O&R also include the duration and frequency of that minimum load requirement? In other words, will these specified need happen every day for 7 hours or once per month?	The solution must be available as per the NWA Hourly Capacity Need, posted to the O&R NWA website. This information supersedes and provides greater detail to seasonal, monthly, weekly, and daily needs previously communicated in Questions #7 and #8, and in the RFP – as explained in Section 3b of this document.
26	DERs	In the RFP it is mentioned that the project is needed only for the five summer months, but the clarifying questions mentioned that the project is needed 10 months of the year. What is the actual need?	Please see response to Question #25.
27	DERs	Are there any specific microgrid requirements for the project and the specific equipment? Are there any certifications needed or waived?	As per Section 2.4 of the RFP (entitled "NWA Solution"), O&R expects respondents to propose any specific equipment regarding control, communications and protection schemes – which are microgrid best practices. Respondents should explain how this equipment would communicate with O&R's distribution system during normal operations, and during a contingency situation. Please see response to Question #9 for additional detail. The solution must meet IEEE requirements associated with microgrids.
28	DERs	Section 2.4 indicates that the proposed NWA solution must meet fault current	Please see response to Question #23.

		requirements of 4000 – 7000 amps. Our understanding is that this can only be achieved with a spinning generator and not inverter based solutions that typically can only provide up to 1.3x overcurrent. Will ORU permit inverter based solutions that meet all other requirements of the engineered microgrid except for the fault current requirement?	
29	DERs	Question 17 in the previous Q&A document addressed wholesale revenues, however given that the engineered microgrid must be available with 1 hour notice, other than in the months of January and February when it is not needed, we do not see how it is possible to participate in the NYISO wholesale market unless ORU provides a limit on the number of calls per year or time period in between calls. Please confirm if the system must be on 1 hour standby throughout all hours from March through December?	The system must be on one hour standby to provide contingency support all hours of the year. However, the capacity need (MW and MWh) varies as per the NWA Hourly Capacity Need – posted to the O&R NWA website. Any capacity greater than the required need (*i.e.,* reserve) can be used for alternative benefit streams. The successful respondent should expect to be penalized for not meeting availability requirements. In addition, during the contracting process, the successful respondent should expect to work with O&R to develop a $/kWh cost for services outside of the contingency situation (*e.g.*, if O&R calls on the solution to reduce congestion during certain times of the year).