

GREENVILLE UTILITIES COMMISSION

QUESTIONS AND ANSWERS FOR 22-47

RFB FOR 4,000kW PEAK SHAVING GENERATION SYSTEM

8/3/2022 at 3:00PM

- 1) Site Visits?
 - a. GUC will escort vendors for a site visit on Wednesday, July 27th at 9:00 a.m. Please respond to John Powell, powelljl@guc.com 252-551-3388, if you will be attending.
- 2) Due to market conditions and lead times being longer than 60 weeks for UL-1558 listed switchgear, would UL-891 listed switchboards be acceptable to Greenville Utilities Commission for this project? Reference paragraph 12.1 – Page25
 - a. GUC will evaluate alternatives. List as an exception/option showing price difference and lead time difference.
- 3) Is there an owner's opinion of probable cost for the project?
 - a. No, we are looking for a competitive bid from all our bidders.
- 4) Can further details be provided on the existing units that are to be removed or could a site visit be scheduled to review the equipment to be removed?
 - a. GUC will escort vendors for a site visit on Wednesday, July 27th at 9:00 a.m. Please respond to John Powell, powelljl@guc.com 252-551-3388, if you will be attending.
 - b. Model SR-4B S/N 7DN00512, Engine S/N 24Z06997 Model 3512, Hours 5360 on 7-19-2022 Caterpillar 1010 kw Regularly maintained by factory rep under maintenance contract
 - c. Model SR-4B S/N 7DN00506, Engine S/N 24Z07002 Model 3512, Hours 5115 on 7-19-2022 Caterpillar 1010 kw Regularly maintained by factory rep under maintenance contract
- 5) Please advise on the timeframe in which the rental generator set will be required. Are the existing units to be used during the procurement phase of the project and the rental generator only needed once the existing is removed or does the timeline for the rental start at initial date of contract and extend through completion?
 - a. The rental is required to run from the time the existing generator is offline until the new generator is put in service.
- 6) Will the rental unit be able to utilize the existing switchgear or will temporary switchgear need to be provided with the rental?
 - a. The rental unit will be connected to an existing transformer at a nearby building. Vendor is responsible for any equipment necessary to connect the rental unit to operate in a peak shaving capacity.
- 7) Will a temporary transformer be set for the rental generator set or will the generator utilize the existing connections?
 - a. The rental unit will be connected to an existing transformer at a nearby building. The rental will not be located at the construction site, but nearby.
- 8) The starting / operation of the mobile unit is not discussed in detail. How will GUC start / stop the temporary generator for the project duration?
 - a. Our generator tech will travel to the site and start the generator in peak shaving mode, verify that the generator starts, syncs, and picks up load. At the end of the run, he will travel to the site and shutdown the generator, verifying it separates from utility, ramps down and shuts down.
- 9) There is mention of geotechnical engineering in the specs (section 16.1). Has there been any soil analysis done in the past? Is there any more detail to this requirement?

- a. To our knowledge, no soil analysis has been done. The existing generator/pad was moved to the site several years ago. We provided the 'typical' pad detail for our generators in the bid package. Vendor is responsible for any geotechnical if necessary for foundation design.
- 10) The RFP mentions remediation of the site is the responsibility of the Materialman. Is there any existing conditions / known environmental issue that the Materialman should expect required remediation?
- a. We are not aware of any conditions requiring remediation. The Materialman is responsible for handling the remediation, but GUC will bear the cost if necessary.
- 11) Please advise if the generator set will be required to have factory certified emissions for intended use (peak shaving / non-emergency) or will field verification be sufficient?
- a. Field verification is sufficient providing it meets all requirements set forth in sections 3.0 and 10.5.
- 12) Please advise of location of proposed gas skid. Will there be a dedicated gas skid for each unit or will they share a gas skid?
- a. To be determined by our Gas department, pending manufacturers information regarding pressure and volume of gas supply needed for the site.
- 13) Please advise of location of Outdoor Reverse Power Relay Cabinet as noted on the Riser.
- a. See drawing ECSM-SITE-SP provided with the bid package. Labeled RP1 and RP2. Situated on the east side of the site, which is the top side of the drawing.
- 14) Please advise of location of SCADA fiber connection for new equipment.
- a. Existing equipment is not communicating via fiber. WAN fiber for connection back to GUC SCADA is located in the RTU cabinets and connects to our fiber ring. See drawing ECSM-SITE-SP provided with the bid package. Labeled RTU1 and RTU2. Situated on the east side of the site, which is the top side of the drawing.
- 15) Is there any known primary / secondary cabling as existing to remain known to be present in the area to be disturbed by this project? If so, is this existing in duct bank or direct burial?
- a. Existing primary and secondary cables are shown to be in conduit per ECSM-SITE-CP drawing. Our intent would be to re-use any stub outs from the existing medium voltage gear on the site. We are open to alternative site plans that make use of existing locations and conduits as long as the footprint of the project remains the same as the existing site.
- 16) Have questions provided by other bidders been answered and are they shareable?
- a. All questions will be answered and provided to all vendors.
- 17) Section 1.0 mentions that the "project design shall incorporate means for potential future expansion of additional peak shaving generation." Do you have an estimation on how large that additional expansion would be?
- a. Future expansion at this site is unlikely, but should be accounted for with controls that can share load and accommodate an additional generator in the future.
- 18) Section 1.0 mentions that the project requires the new system to be installed in the existing footprint of that system in operation. Are we limited to only 2 generators each rated at 2MWe as shown on the existing and preliminary site plan or are 3 generator sets permissible?
- a. Three gensets are permissible, provided that the foot print is maintained. Any additional cost incurred by the utility, (increased transformer size, cabling, metering, conduit, labor, etc.) will be considered when evaluating the total cost of the project.
- 19) Section 10.1.3 mentions that the engine shall be designed to operate continuously at loading levels down to 20% of its peak shaving rating. What is the expected lowest load the engine would operate at?
- a. Any combination of gensets can be used to meet the 20% (800 kW) requirement. The expectation is that they will be loaded 100%, but for the purpose of peak shaving the total site must be able to operate at 20%. It is permissible for one or more generators to shutdown to

meet the requirement. If multiple units are utilized, ensure that the 20% can be achieved if one or more units are out of service.

- 20) Can you specify the emissions limits to meet for the site? Any required monitoring equipment?
- a. Please see section 3.0 and 10.5 of the specification. Also see [eCFR :: 40 CFR Part 63 Subpart ZZZZ -- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines](#)
- 21) Section 12 mentions that the “Materialman shall furnish utility peak shaving switchgear(s) that provides capability for paralleling the new engine-generators with the electric utility supply.” There is also a breakdown calling for the “Utility Peak shaving Paralleling Switchgear” in the bid schedule. However, the preliminary one-line diagrams on pages 59 and 60 (ECSMxx_SITE01_1LIN_R2Adwg and ECSMxx_SITE02_1LIN_R2Adwg) show that all equipment downstream of the generator circuit breaker (transformer, paralleling gear, reverse power relay cabinet, etc) is to be supplied “By Greenville Utilities”. Can you confirm who is responsible for this scope of supply?
- a. “Utility Peak shaving Paralleling Switchgear” refers to the switchgear with the gen breaker. In the existing installation, the switchgear in each generator enclosure is responsible for paralleling with the utility and/or the other generator.
 - b. Everything from the step up transformer upstream to the utility is existing and on site already.

CABLE NO.	FUNCTION	CABLE SCHEDULE		CABLE		REMARKS
		FROM	TO	NO.& SIZE	LENGTH	
	GENERATOR #1					
100A	GENERATOR POWER A PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
100B	GENERATOR POWER B PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
100C	GENERATOR POWER C PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
100N	GENERATOR POWER N PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
101A	GENERATOR POWER A PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
101B	GENERATOR POWER A PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
101C	GENERATOR POWER C PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
101N	GENERATOR POWER N PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
102A	GENERATOR POWER A PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
102B	GENERATOR POWER A PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
102C	GENERATOR POWER C PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
102N	GENERATOR POWER N PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
103A	GENERATOR POWER A PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
103B	GENERATOR POWER A PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
103C	GENERATOR POWER C PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
103N	GENERATOR POWER N PH	GENERATOR #1	GENERATOR PANEL SEC. 1	750 MCM	20'	
110A	GENERATOR POWER A PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
110B	GENERATOR POWER B PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
110C	GENERATOR POWER C PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
110N	GENERATOR POWER N PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
111A	GENERATOR POWER A PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
111B	GENERATOR POWER B PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
111C	GENERATOR POWER C PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
111N	GENERATOR POWER N PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
112A	GENERATOR POWER A PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
112B	GENERATOR POWER B PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
112C	GENERATOR POWER C PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
112N	GENERATOR POWER N PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
113A	GENERATOR POWER A PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
113B	GENERATOR POWER B PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
113C	GENERATOR POWER C PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
113N	GENERATOR POWER N PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #1	600 MCM	60'	
120A	A.C. POWER SUPPLY	A.C. PANEL GENHOUSE #1	DAY TANK #1	4/C #12	80'	
120B	ALARMS	UTILITY PANEL SEC. 2	DAY TANK #1	8PR#19	75'	
121A	A.C. POWER SUPPLY	A.C. PANEL GENHOUSE #1	FUEL TANK #1	4/C #12	100'	
121B	ALARMS	UTILITY PANEL SEC. 2	FUEL TANK #1	6PR#19	95'	
130A	A.C. POWER SUPPLY	A.C. PANEL GENHOUSE #1	SCADA RTU #1	4/C #12	75'	
130B	SCADA FUNCTIONS	SCADA RTU #1	UTILITY PANEL SEC. 2	25 pr. #22	70'	
130C	SCADA FUNCTIONS	SCADA RTU #1	UTILITY PANEL SEC. 2	12C#12	70'	
131A	SCADA FUNCTIONS	SCADA RTU #1	SCADA RTU #2	(2) - #12	10'	
131B	SCADA FUNCTIONS	SCADA RTU #1	SCADA RTU #2	RJ45	10'	
132	LOAD MANAGEMENT	REGENCY SWITCH	SCADA RTU #1	12C#12	30'	
140A	A.C. POWER SUPPLY	REVERSE POWER CABINET #1	A.C. PANEL GENHOUSE #1	4C#12	70'	
140B	REVERS POWER TRIP	REVERSE POWER CABINET #1	UTILITY PANEL SEC. 2	12/C #12	65'	
140C	ANALOGS	REVERSE POWER CABINET #1	UTILITY PANEL SEC. 2	12pr #19	65'	
141A	PT FEED	CK METER CAB VIA TIE BAY	REVERSE POWER CABINET #1	4/C #10	20'	
141B	CT FEED	GUC SWITCHGEAR	REVERSE POWER CABINET #1	4/C #10	20'	
150A	PT FEED	GUC SWITCHGEAR	METER CABINET	4/C #10	30'	
150B	CT FEED	GUC SWITCHGEAR	METER CABINET	4/C #10	30'	

a.

CABLE NO.	FUNCTION	CABLE SCHEDULE		CABLE		REMARKS
		FROM	TO	NO. & SIZE	LENGTH	
200A	GENERATOR POWER A PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
200B	GENERATOR POWER B PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
200C	GENERATOR POWER C PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
200N	GENERATOR POWER N PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
201A	GENERATOR POWER A PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
201B	GENERATOR POWER A PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
201C	GENERATOR POWER C PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
201N	GENERATOR POWER N PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
202A	GENERATOR POWER A PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
202B	GENERATOR POWER A PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
202C	GENERATOR POWER C PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
202N	GENERATOR POWER N PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
203A	GENERATOR POWER A PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
203B	GENERATOR POWER A PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
203C	GENERATOR POWER C PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
203N	GENERATOR POWER N PH	GENERATOR #2	GENERATOR PANEL SEC. 1	750 MCM	20'	
210A	GENERATOR POWER A PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
210B	GENERATOR POWER B PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
210C	GENERATOR POWER C PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
210N	GENERATOR POWER N PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
211A	GENERATOR POWER A PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
211B	GENERATOR POWER B PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
211C	GENERATOR POWER C PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
211N	GENERATOR POWER N PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
212A	GENERATOR POWER A PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
212B	GENERATOR POWER B PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
212C	GENERATOR POWER C PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
212N	GENERATOR POWER N PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
213A	GENERATOR POWER A PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
213B	GENERATOR POWER B PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
213C	GENERATOR POWER C PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
213N	GENERATOR POWER N PH	UTILITY PANEL SEC. 2	GENERATOR XFMR #2	600 MCM	60'	
220A	A.C. POWER SUPPLY	A.C. PANEL GENHOUSE #2	DAY TANK #2	4/C #12	90'	
220B	ALARMS	UTILITY PANEL SEC. 2	DAY TANK #2	6PR #19	85'	
221A	A.C. POWER SUPPLY	A.C. PANEL GENHOUSE #2	FUEL TANK #2	4/C #12	95'	
221B	ALARMS	UTILITY PANEL SEC. 2	FUEL TANK #2	6PR #19	90'	
230A	A.C. POWER SUPPLY	A.C. PANEL GENHOUSE #2	SCADA RTU #2	4/C #12	110'	
230B	SCADA FUNCTIONS	SCADA RTU #2	UTILITY PANEL SEC. 2	25 pr. #22	110'	
230C	SCADA FUNCTIONS	SCADA RTU #2	UTILITY PANEL SEC. 2	12C #12	110'	
240A	A.C. POWER SUPPLY	REVERSE POWER CABINET #1	A.C. PANEL GENHOUSE #2	4C #12	110'	
240B	REVERS POWER TRIP	REVERSE POWER CABINET #1	UTILITY PANEL SEC. 2	12/C #12	105'	
240C	ANALOGS	REVERSE POWER CABINET #1	UTILITY PANEL SEC. 2	12pr #19	105'	
241A	PT FEED	OK METER CAB VIA TIE BAY	REVERSE POWER CABINET #2	4/C #10	40'	
241B	CT FEED	GUC SWITCHGEAR	REVERSE POWER CABINET #2	4/C #10	40'	
250A	PT FEED	GUC SWITCHGEAR	METER CABINET	4/C #10	40'	
250B	CT FEED	GUC SWITCHGEAR	METER CABINET	4/C #10	40'	

- c. Large circles indicate 4" or 5" conduits
- d. Small circles indicate 2" conduit
- e. Black lines indicate general path of conduit bundle
 - i. i.e. a group of (4) 4" conduits (indicated by 4 circles) will have 1 black line showing the path they follow to the far end location.
- f. Black ovals indicate the cable number installed in the conduit
 - i. Cable schedule shown above can be referenced for size/type of cable and purpose.
- g. Blue circles/lines indicate 4" conduit in place for existing diesel fuel piping
- h. Conduit plan is for the existing site. Our intent would be to re-use any stub outs from the existing medium voltage gear on the site. We are open to alternative site plans that make use of existing locations and conduits as long as the footprint of the project remains the same as the existing site.