Request for Proposal

Demand Response Program

RFP Issue Date: June 9, 2020

Deadline to Submit Letter of Intent: June 18, 2020
12:00 p.m. EST

Deadline to Submit Questions: June 18, 2020
12:00 p.m. EST

Responses to Questions Returned: June 30, 2020
12:00 p.m. EST

Proposal Due Date: July 14, 2020
12:00 p.m. EST

Contact/Submit To: Santee Cooper
Attention: Corporate Secretary
1 Riverwood Drive
Moncks Corner, SC 29461

Email:
corporate.secretary@santeecooper.com

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1.   RFP Summary

South Carolina Public Service Authority (hereinafter called "Santee Cooper") is releasing this RFP to procure a vendor(s) who will facilitate the design and implementation of a Demand Response ("DR") program ("program"). This program could increase reliability, reduce Santee Cooper's load during high usage times, and help reduce transmission and distribution constraints along with fuel costs.

Santee Cooper will have the option to extend the contract with the selected vendor(s) to implement full-scale DR program offers. At any time during this contract, Santee Cooper can offer pilot programs and full-scale programs for other market segments including, but not limited to, commercial customers.

The vendor(s) awarded for each contract(s) must have expertise in the area they are bidding. Requirements are listed in the sections that follow. A vendor can submit a proposal for a turn-key solution, one individual section or any combination of the section(s) of the proposal. These sections include:

- Switch vendor
- Distributed Energy Resource Management System ("DERMS")/Demand Response Management System ("DRMS") vendor
- Implementation contractor and marketing consultant
- Turn-key solution

1.1 Demand Response Overview

Santee Cooper is planning a robust and innovative DR pilot program for its retail service territory, beginning in quarter one of 2021, to increase reliability using advanced switch technology. This pilot program could extend for up to a year, expanding to a full-launch program in the future. During the pilot, we will be evaluating proper implementation of a full-scale DR program and other DR opportunities.

1.2 Coverage and Participation

The intended coverage of this RFP, and any agreement resulting from this solicitation, shall be for the use of all departments at Santee Cooper and any satellite offices. Issuance of a proposal does not obligate Santee Cooper to purchase any solution from any vendor. Santee Cooper reserves the right to reject any and all proposals. All costs associated with the proposal preparation are the sole responsibility of the vendor. Following acceptance of a proposal, but prior to entering into contract negotiations, Santee Cooper reserves the right to improve, diminish and/or modify any part of the proposal to satisfy changed requirements.

1.3 Original RFP Document

Santee Cooper shall retain the RFP and all related terms and conditions, exhibits and other attachments, in original form in an archival copy. Any modification to these, in the vendor's submission, is grounds for immediate disqualification. Any follow-up communications regarding the RFP will be included in the final contract.

2.   Santee Cooper Overview

The following section is intended to present background information for the vendor with respect to Santee Cooper's customer base, territory and future vision.

2.1 Santee Cooper Profile

Santee Cooper is South Carolina's state-owned electric and water utility, and the state's largest power producer, supplying electricity to more than 189,000 retail customers directly in Berkeley, Georgetown and Horry counties. They also serve 27 large industrial customers, the cities of Bamberg and Georgetown, Joint Base Charleston, the Alabama Municipal Electric Authority, and the nine-member cities from the Piedmont Municipal Power Agency. Santee Cooper generates the power distributed by the state's 20 electric cooperatives in all 46 counties. Approximately two million South Carolinians receive their power directly or indirectly from Santee Cooper. The utility also provides water to consumers in Berkeley, Calhoun, Dorchester, Orangeburg counties and the town of Santee. Santee Cooper peaks in both the summer and winter; however, the largest peak is in the winter.

2.2 Santee Cooper's Current Customers

Santee Cooper currently has approximately 158,000 residential and 29,700 commercial customers. Approximately 80,000 energy-efficiency projects have been completed through Santee Cooper programs since 2009. The Myrtle Beach area is unique as it includes many second homes, vacation homes and short-term rentals. Currently, Santee Cooper does not have a DR program in place and no switches are installed in the retail service territory.

3.   Key Dates

The following is a tentative schedule that will apply to this RFP; however, this schedule is subject to change in accordance with Santee Cooper's needs or unforeseen circumstances.

REQUEST	DATE
Post Request for Proposal on appropriate websites	June 9, 2020
Deadline to submit Letter of Intent	June 18, 2020
Deadline to submit questions concerning RFP	June 18, 2020
Answers to questions delivered to all vendors	June 30, 2020
Proposal deadline	July 14, 2020

4. Scope of Work and Technical Requirements

The purpose of this RFP is to review and select a vendor(s) to perform a successful DR pilot program, with the intent to expand into a full-launch program. This will potentially expand to other DR programs for Santee Cooper.

Based on the final scoring of the vendors' responses, Santee Cooper will select the vendor(s) and initiate contract negotiations. The vendor's proposal(s) must provide sufficient detail to permit easy identification of costs and solutions. Santee Cooper reserves the right to accept all, none or portions of the proposed solutions. Santee Cooper may elect to utilize its existing staff to implement sections of an accepted proposal when deemed economically preferable and when determined not to have a negative impact to the outcome of the scope of work.

Santee Cooper will be looking for a solution that is cost-effective and meets certain criteria necessary for the company and its customers. The vendor's proposal(s) shall detail the solution to a DR program beginning with a pilot then rolling into a full-scale program, based on the criteria provided in this RFP.

4.1 Roles and Responsibilities

A turn-key solution is acceptable for this project, as well as individual bid(s) for the different sections. Below is an overview and list of roles and responsibilities that will need to be executed by the bidder of each section. The turn-key solution will have to meet all required activities for each section.

Switch

A DR control switch product will aid Santee Cooper in DR program implementation by managing customer-owned equipment, when necessary.

Based on the current need, the switch will:

- Enable Santee Cooper to manage customer-owned equipment, such as water heaters ("WH") and heating, ventilation, and air conditioning ("HVAC")
- Be compatible with commercial HVAC and WH systems that operate similarly to those of residential systems
- Limits customer inconvenience[1] during a DR event
- Be dispatchable via a DERMS/DRMS[2] product, which will be selected based on the requirements in this RFP
- Transmit data to a DERMS for use in developing control strategies

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[1] Convenience throughout this document refers to the ability to maintain the customer's comfort level throughout a DR event.

[2] DERMS and DRMS will be used interchangeably throughout this document. Both the DERMS and DRMS products will be accepted as a bid as long as they meet Santee Cooper's requirements. The product selected will be capable of expanding modules other than just DR, as greater penetrations of distributed energy resources affect Santee Cooper's grid.

Switch Vendor Responsibilities:

- Provide switches that satisfy the requirements within this RFP
- Provide initial requested number of switches for the DR program one month prior to the program launch date (quarter one of 2021)
- Train implementor on switch installation
- Provide replacement switches, free of charge, for any defective switches (the switch vendor will be responsible for any failures due to manufacturing)
- Provide all applicable DR switch related information to implementor and Santee Cooper to ensure program success
- Provide support to implementor, as needed
- Provide switch hardware and software updates
- Verify the switch provides requested DR functionality
- Contact cellular provider in response to connectivity issues, if needed
- Allow for the dispatch of a DR event, if a DERMS is unavailable
- Verify and confirm that all vendor interfaces and practices conform to Santee Cooper's Technology Services ("TS") security policies and practices
- Ensure compatibility with Santee Cooper selected DERMS
- Collaborate with DERMS vendor and implementor to facilitate a successful DR program

DERMS

A DERMS will help Santee Cooper integrate and support a successful DR program. It is Santee Cooper's expectation that its DR program will expand to other distributed energy resources ("DERs") in the future. Later, these DERs could utilize an expanded DERMS system. However, at this time, it will be procured solely to support DR.

Based on the current need, the role of the DERMS vendor will be to:

- Provide comprehensive support for all DERs via one platform, with the initial focus on DR only
- Deliver targeted DR dispatch
- Supply a scalable architecture for real-time control of DR
- Provide user-friendly interface to support Santee Cooper's needs
- Collaborate with switch vendor to collect data

DERMS Vendor Responsibilities:

- Stand up and provide continued support of a DERMS that satisfies the requirements within this RFP
- Implement additional modules, as needed, as greater penetrations of various DERs impact Santee Cooper's grid
- Provide vendor-neutral support for DR and future DER programs, as needed

- Collaborate with switch vendor and implementation contractor to facilitate a successful DR program
- Collaborate with switch vendor to ensure successful link between DERMS and switch vendor's system head-end
- As other DER programs are implemented by Santee Cooper, ensure successful link with future vendor's systems
- Provide training and education to personnel within Santee Cooper on, including but not limited to, scheduling events, calling events and target dispatching
- Develop algorithms and strategies effectively to achieve load shed by utilizing appliance run-time data gathered by switch vendor
- Provide support to Santee Cooper and its operators to ensure reliable and accurate load shed
- Call pre-scheduled and unscheduled events upon Energy Control Center ("ECC")/Distribution Control Center ("DCC") requests
- Utilize an interface that is simple and efficient to use
- Compile and submit analytics along with raw data
- Compile, track and submit customer information and other program metrics in a format suitable for uploading into Santee Cooper's tracking system (currently, energyOrbit)
- Verify and confirm that all DERMS vendor interfaces and practices conform to Santee Cooper's IT security policies and practices
- Send event notifications to customers via email and text message
- Provide calculated reporting for load shed data in real time pre-event, during the event and after the event
- Manage opt-outs that are received by email or text messages and use this value to determine load shed (the number of opt-outs allowed per year for each customer will be determined by Santee Cooper)

Implementor & Marketing

One of Santee Cooper's priorities for this DR program will be to uphold high-standard customer service for its retail customers. It is believed that this can be accomplished with greater certainty if the implementation vendor and marketing consultant are in partnership for this program. By being in partnership, the implementor and marketing consultant can accomplish greater efficiencies during recruitment, enrollment and installation of switches for the DR program. Also, by partnering together, it ensures that both the implementation contractor and marketing consultant will work together for customer recruitment.

Santee Cooper will accept bids for the implementation contractor and marketing section of the RFP two ways:

- Implementor hires and partners with a marketing consultant
- Implementor has an internal marketing team that has extensive experience with marketing and recruiting for DR programs

The selected vendor will be required to place heavy value on customer service for Santee Cooper's retail service territory. Although the program will originate in Santee Cooper's retail service territory, the implementation contractor must be willing to expand the program across the state, if required.

An implementation contractor will:

- Recruit customers for the DR program
- Install switches and, if necessary, all other applicable DR hardware where appropriate on customer premises
- Stand up program and continue to provide program integration support
- Manage DR customer-facing interactions
- Manage installation contractors, equipment inventory, maintenance, inspections, and repairs by following project management practices
- Manage relationship with and performance of marketing consultant
- Provide a call center for the DR program

Implementation Contractor Responsibilities:

General Requirements

- Stand up program by quarter one of 2021
- Achieve Santee Cooper's participation goal
- Create DR program documents to the satisfaction of Santee Cooper
- Recommend a plan for potential expansion of the residential program into the commercial sector and expansion of future technologies to enhance the DR program (i.e., additional switches, batteries, electric vehicles, smart home devices, etc.)
- Provide all personnel, vehicles, installation equipment (as required), tools, support materials, installation testing, and supervision
- Refrain from providing any non-Santee Cooper business cards, brochures, etc. to customers or attaching them to their equipment
- Maintain and manage a warehouse capable of receiving and storing up to 5,000 devices at a time
- Ensure hardware is received, tested and scanned into inventory, and return all defective devices to hardware vendor with a report of these defects

Training

- Participate in installation training offered by switch vendor, and ensure all installation personnel have received adequate training before dispatching them to Santee Cooper customers' premises
- Instruct and train installation personnel on all appropriate and jurisdictionally required safety related criteria

Customer Communication

- Respond to service calls during and after hours
- Recruit and enroll participants
- Uphold high customer service standards, such as those mentioned under *Call Center* and in the *Requirements* section
- Educate the customers on DR and distribute materials
- Ensure timely response of any and all customer complaints and service requests within 24 hours
- Resolve all customer complaints regarding the workmanship, parts, labor, or materials provided by the installer within 48 hours
- Provide and handle all customer calls:
  - Provide incoming call support, customer qualification, telemarketing, and customer service support
  - Maintain a staff of experienced personnel prepared to resolve DR related customer inquiries and complaints
  - Follow pertinent call center inbound process standards:
    - Answer 85% of calls within 30 seconds or less
    - Respond to emails in less than eight hours
    - Answer real-time chats immediately
  - Pre-qualify customers
  - Answer all customer questions about the program
  - Provide after-hours customer service capabilities for nights and weekends
  - Provide an on-call service technician(s) to respond to emergency situations from participating customers

Installation and Repairs

- Hire local contractors to install switches and perform repairs
- Schedule customer appointments for installation
- Install switches for participants within the time frame agreed upon with Santee Cooper
- Resolve any issues related to the switch installations
- Install or integrate hardware upgrades to switches
- Issue and manage work orders

Collaboration

- Collaborate with switch vendor to receive proper training for installation of switches, track customer equipment information, and troubleshoot issues with switches
- Manage and collaborate with the marketing consultant
- Collaborate with DERMS vendor, when needed

Marketing Consultant (this is part of the Implementation Contractor bid)

The marketing consultant will:

- Tailor DR marketing materials and efforts to Santee Cooper's customer base
- Analyze and adapt marketing techniques to ensure optimal DR participation
- Manage the effectiveness of marketing efforts and adjust approach and strategy, when necessary
- Determine and target DR candidates
- Optimize DR results

Marketing Consultant Responsibilities:

- Support Santee Cooper in target marketing and identifying DR candidates
- Design, and in some cases provide, marketing material to support recruitment for DR program
- Collaborate with Santee Cooper and receive approval on all marketing tactics
- Develop program marketing collateral, including documents (i.e., bill inserts, handouts, etc.), website information, social media outreach, etc.
- Provide training and education to Santee Cooper personnel and the implementation contractor on strategies to recruit DR candidates
- Recommend customer incentive and retention processes
- Provide analytics concerning the recruitment progress and success of the marketing strategies
- Lead recruiting activities
- Develop a general understanding of switch product
- Collaborate with and report to implementation contractor

4.2 Demand Response Switch Technical Requirements

Below is a list of switch technical requirements. These must be met to bid on the switch portion of the RFP.

Switch Communication

It is desirable that the switch use Verizon as its cellular provider. Verizon is Santee Cooper's corporate provider.

The DR switch must:

- Operate on 4G LTE cellular network
- Verify network communications on demand

Appliance Run-Time Data

Appliance run-time data must be:

- Detectable by monitoring and retrieving the run time of each control function that is implemented at the customer's premises. This shall include the HVAC compressor/condenser unit, indoor fan and electric heat strip associated with a heat pump. The WH run time shall also be monitored and retrieved
- Collected based on a one-minute time interval (This is Santee Cooper's preference. If you can't meet the one-minute time interval, please specify your capabilities in the *Requirements* section.)
- Retrievable on a timely basis as chosen by Santee Cooper (typically will be hourly but could also be near real-time)
- Available to the DERMS for the development of the advanced control strategies needed or this system

Switch Event Control

The DR switch must do the following during an event period:

- Send an acknowledgement upon receiving DR commands/messages from an authenticated source
- Support event parameters for event:
  - Start time
  - Duration
  - Stop time
- Be capable of executing appliance load shed durations from a minimum of five minutes up to 60 minutes per load shed cycle time base (i.e., a 50% load shed event could be 15 minutes off, on a 30-minute load shed cycle time base)[3]

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[3] The event duration and shed time duty cycle are co-dependent and subject to the rules established by the program design.

- Control (shed off/on duty cycle) each participating appliance independently with the intent of delivering a specific load reduction (i.e., one kW) from that appliance
- Utilize a DERMS-developed control strategy, so the only requirement of the switch vendor is to implement the strategy provided from the DERMS system (the switch vendor will support Santee Cooper in the development of these control strategies, if Santee Cooper can't implement a DERMS immediately)

Switch Appliance Control

The DR switch must be capable of:

- Controlling a conventional 240 VAC WH
- Controlling an HVAC system, which includes the independent operation of the three relays below:
    - Compressor/Condenser
    - Electric heat strips
    - Indoor fan

Switch Monitoring

- Each DR switch must have the ability to physically monitor the operation of each control relay and be able to confirm its successful control of that appliance in order to verify load control
- Report event status changes to the system head-end within one minute of any detection of event changes (If the one-minute time interval can't be met, please specify your capabilities in the *Requirements* section.)
- Report switch health status, availability, control event history, and verification of control at an interval determined by Santee Cooper
- Provide field test equipment

Switch Calling and Load Shed Predictions

The DR switch must do the following:

- Be able to receive and execute non-conflicting commands related to individual and multiple end-use loads simultaneously (i.e., if an event for relay one is called, then an overlapping event for relay two is called, the DR switch should be able to execute both without conflict)
- Support the ability to randomly delay the start-time and end-time of a DR event

Cold Load Pick-Up and Power Loss

Cold Load Pick-Up ("CLP") is a switch's ability to immediately shed its connected load when power is restored after a power outage.

To support CLP, the DR switch must:

- Ensure individual relays of the DR switch shall invoke CLP, if CLP has been enabled for that relay
- Enable varied restore time CLP for each DR switch
- Resume any in-progress DR events immediately after recovering from a loss of power, regardless of whether CLP is enabled[4]
- Verify network communications upon restoration from a power outage

Over-the-Air Firmware Upgrades

The DR switch must receive firmware upgrades over-the-air ("OTA"). These firmware upgrades must be independent, yet coordinated, between the DR switch and the system head-end.

Safety

When the relay that controls the indoor fan is in shed mode, the DR switch shall always shed the relay associated with the control of the electric heat strip.

Physical Requirements

Below are the physical requirements for the type of switches Santee Cooper is considering:

- Switch type one: A one-function, line voltage (240 VAC) powered, DR switch shall contain:
    - One 240 VAC 30 amperes resistive-rated relay that can control a 240 VAC WH
- Switch type two: A three-function, low voltage (24 VAC) powered, DR switch shall contain three 24 VAC five amperes low voltage relays configured for controlling HVAC:
    - Compressor/Condenser
    - Fan
    - Electric heat strip

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[4] If the DR event was scheduled to end prior to restoration of power, then the event would be deemed complete and CLP shall occur (if previously enabled).

- Switch type three: A four-function, low voltage (24 VAC) powered, DR switch shall contain four relays configured for controlling:
  - One 240 VAC 30 amperes resistive-rated relay that can control a 240 VAC WH
  - Three 24 VAC five amperes low voltage relays configured for controlling HVAC:
    - Compressor/Condenser
    - Fan
    - Electric heat strip
- The DR switch must have dedicated visual status indicators to show:
  - Appliances are being controlled
  - Status indicator for "power on" state
  - State of the cellular link
- The DR switch enclosure shall support the physical attachment of the unit to the customer's wall materials (exterior and interior walls) and surfaces
- Must contain a "watch dog" circuit to detect any malfunction and initiate a hard reset of the DR switch so that it resumes normal operations

Ratings & Standards

The following includes the rating and standard requirements for the DR switch:

- All low and high voltage conductor insulations shall be rated at a minimum 600 VAC, 105 °C
- The DR switch must have input operating voltage stability range of +20% to -20%
- The switch must meet or exceed Category A and be applicable to line surge standards relative to the specific switch[5]
- Enclosure shall be tested and certified by an independent, third-party test facility to meet or exceed National Electrical Manufacturers Association (NEMA) 3R (rain-tight and suitable for outdoor and indoor installation)
- The switch must meet UL916 Standard for Energy Management Equipment
- All external labels on the DR switch enclosure shall conform to UL listing requirements
- The switch must operate over a humidity range of 0-90% RH (non-condensing)

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[5] IEEE C62.41.2 defines the categories of expected surges within a facility:

- Category C: Service entrance, more severe environment: 10kV, 10kA surge
- Category B: Downstream, greater than or equal to 30 ft from Category C, less severe environment: six kV, three kA surge
- Category A: Further downstream, greater than or equal to 60 ft from Category C, least severe environment: six kV, 0.5kA surg

- The DR switch's primary stage heating and cooling control relay shall have a minimum electrical life expectancy of 100,000 operations at rated load
- The DR switch WH control relay shall have a minimum electrical life expectancy of 100,000 operations
- The DR switch shall be able to withstand a 1,000 mm (approximately 3.2 feet) drop test, as specified by IEC 60068-2-32, while remaining operational and without sustaining enclosure damage that would compromise its NEMA rating

Firmware Upgrade

The DR switch must do the following:

- Automatically roll back to the previous firmware version upon firmware update failure
- Notify the system head-end of a firmware upgrade failure
- Have on-board memory with enough free space to completely update its firmware
- Make Santee Cooper aware of any firmware update in a timely manor

Short Cycle Protection Configuration

Short cycle protection ("SCP") configuration is the ability to ensure that the HVAC compressor will not be controlled (turned off) for less than a specified time.

The DR switch must:

- Have the ability for SCP configuration
- Use a default minimum shed time that is configurable

System Logs

The DR switch must:

- Log all communications, including date and timestamp of each communication
- Capture time stamped DR event history
- Capture every duty cycle the physical relays perform
- Capture the results of internal diagnostic tests
- Provide rolling entries such that when the switch memory is full, the oldest entry is erased to make room for the latest entry
- Preserve configuration settings and activity logs in the event of a power outage
- Store the run-time information (including date and time stamp) for the load connected to its physical relay
- Ensure that Santee Cooper will own the data, and there will be no one-time or recurring charges for this data

Timing

The DR switch must do the following:

- Have an internal clock and calendar (month/day/year) that synchronize with the system head-end
- Maintain correct time within +/- one minute over 24 hours since last synchronization
- Query its time source with the system head-end for the correct time after recovering from a power loss

Incremental kW savings

Please complete the kW table in the **separate electronic *RFP Questions* document.** by including the incremental amount of kW savings generated per switch based on gathered data from other utilities in which your DR switch is implemented. Winter peaking utility information is preferred.

Switches	Incremental amount of kW
One-function (WH)	
Three-function (HVAC)	
Four-function (HVAC & WH)	

4.3 DERMS/DRMS Technical Requirements

Below is a list of DERMS technical requirements. These must be met to bid on the DERMS portion of the RFP.

Targeted and Surgical Dispatch

The DERMS must:

- Use software to tag and dispatch DR at the substation, feeder, transformer, or circuit level based on local grid conditions
- Deliver pinpoint dispatch of DR when Santee Cooper calls an event

Scalable Real-Time Architecture

The DERMS must:

- Provide scalability of communication, dispatch and optimization modules to provide support for DR switches, control configurations and granular system-condition data
- Provide granular monitoring of DR for greater operational visibility in real time
- Be capable of forecasting expected load shed in near real time

DERMS Functionality

The DERMS vendor must:

- Provide a fully functioning DERMS
- Ensure the system can develop and initiate all DR commands
- Provide a product that utilizes short interval run-time data (preferably one minute) for each switch and subcomponents connected to the DR system
- Integrate the following types of interval data, which will be provided by the switch vendor to the DERMS:
    - WH
    - HVAC compressor/condenser
    - HVAC indoor fan
    - HVAC electric heat strip
- Utilize the data, both historical and recent, to develop control strategies that are applicable to each specific HVAC system (Preferably, each customer will be controlled uniquely in order to deliver the desired kW load reduction, and no "one size fits all" control is to be used.)
- Leverage customer convenience monitoring to balance load reduction against customer convenience based on program guidelines
    - If switch vendor cannot provide real-time customer convenience monitoring, DERMS vendor must be able to provide customer convenience assurance through algorithms, etc.
- Support the generic interface (API) with vendors for a given DR asset

Consistent Load Reduction

The DERMS must:

- Utilize the appliance run-time data to develop control strategies that deliver consistent load reduction values during a load reduction event. This will deliver a sustained MW reduction resulting in load reduction that simulates what a utility would see from a generation resource
- Utilize the available run-time data, time, temperature, and any other appropriate parameters to develop DR strategies

Targeted Demand Response

The DERMS must:

- Be capable of implementing the same control strategy across all groups, a different strategy for each group or a controlled strategy at the switch level
- Group DR switches for Santee Cooper target load reduction geographically, on a feeder level, or any other means that could aid Santee Cooper in load reduction or ancillary services
- Create, change or remove groups at any time without limitation

Load and Capacity Forecasting Pre-Event

The DERMS must:

- Calculate and display in graphical interface the following:
    - Baseline load forecast
    - Load shed availability
- Consider parameters such as, but not limited to, program constraints, weather, customer inconvenience monitoring, etc. when forecasting
- Provide operators with scenario analysis of programs and groups for optimal dispatch guidance. This scenario analysis must be based on the same parameters used to forecast load shed availability
- Provide DERMS load shed forecast for any DR event, containing details on forecasted load reduction values as they relate to physical parameters, such as month of the year, day of the week, time, and weather conditions

Demand Response Event Load Reduction Reporting

The DERMS must:

- Track and report the load reduction values that are occurring in near real time for each program and groups
- Provide a near real-time graphical interface to view load shed and the baseline load forecast to observe the impact of the event
- Ensure access to an event page for DERMS users to view event summary statistics after a DR event has ended (i.e., average load shed, maximum load shed, average load shed per DR switch, etc.)
- Provide a report with the baseline forecasted load, forecasted load shed and actual load shed data for every interval of a DR load reduction event
- Report customer load reduction participation values based on their participation during an event. This report provides the participation status of all targeted program participants for every interval of a given DR event

Customer Notifications

- DERMS must be capable of sending customer notifications via text, email and other channels before, during and after events

Measurement and Verification

The DERMS must:

- Apply the utility-provided nameplate[6] capacity value for each HVAC system and WH to the run-time data collected by the DR switch to develop an individual kW value for each run-time interval

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[6] Nameplate capacity value for each HVAC system and WH will be collected at the time of installation to help with measurement and verification.

- Use the available HVAC run-time data from reporting switches to develop event and baseline load curves for each DR event

Integration with Other Utility and Vendor Systems

The DERMS must:

- Support the development of APIs that allow integration with multiple DR System vendors, Bring Your Own Thermostat ("BYOT") vendors, etc.
- Remain neutral on vendor hardware to ensure flexibility in program development and hardware decisions
- Remain flexible in design to allow Santee Cooper to integrate additional DERMS features/modules as greater penetrations of DERs affect their distribution grid

4.4 Implementation Contractor Technical Requirements:

Below is a list of the implementation contractor's technical requirements. These must be met to bid on the implementation contractor portion of the RFP.

Installation of Demand Response Devices

The implementation vendor must:

- Be capable of installing switches inside and/or outside of the customer's premises, depending on the need
- Be capable of installing customer convenience monitoring equipment such as temperature sensors, humidity sensors, etc., if utilized in the program design
- Verify customer's equipment is in good working condition before the installation of the switch and before leaving the premises
- Follow all training and instructions for proper installation
- Provide all equipment except switch hardware and test equipment, which will be provided by the switch vendor
- Verify the correct functionality of the installation using field test equipment
- Install external relays, if needed
- Conform to all local and national code requirements (i.e., National Electric Code)
- Follow all conventional, best practice work standards and safety requirements
- Perform all duties in a neat and workmanlike manner
- Hold a professional license according to local, state and national electrical/occupational code requirements
- Place appropriate appliance control information labels and tamper notice tags in conspicuous locations, when needed
- Report all equipment failures to Santee Cooper (the implementation contractor will be responsible for any failures due to improper installation)
- Mount securely the switches to the customer's premises
- Install low or high voltage wiring (situation dependent) emanating from the switch inside of an industry approved conduit (i.e., Greenfield, PVC, EMT, etc.)
- Be capable of screening customers to determine if they can enroll in this program according to the established program rules

- Remove the DR switch if the customer requests to no longer partake in the program

5. Expectations for Bidders

Santee Cooper is looking for robust and innovative responses with adequate information. All bidders must meet all requirements noted in this RFP.

A comprehensive DR program will:

- Establish robust customer recruitment and retention strategies to achieve the MW load reduction goal set by Santee Cooper
- Achieve participation levels that support DR being utilized as a tool to help maintain Santee Cooper's system reliability
- Incorporate best-in-class DR program practices
- Focus on customer service and minimize impact to customer convenience
- Deploy an innovative DR solution where all components integrate into one system

A successful proposal will demonstrate a vendor(s) ability to do the following:

- Maintain a high level of customer service to both Santee Cooper and its customers
- Develop an expandable program utilizing switches, and potentially additional DR solutions, to control participating customers' load
- Confirm all vendor's systems are compatible with all IT security policies (please complete the questions pertaining to this in the **separate electronic *RFP Questions* document**)
- Offer a solution with costs itemized for each body of work
- Assist and provide marketing content for pilot and future full-scale programs by working with Program Development, Demand Response Team, Program Manager, Corporate Communications, and other stakeholders, as deemed necessary
- Transition to a full-scale program with little to no disruption
- Provide, in the future, proposed solutions for other customer classes
- Meet Santee Cooper's insurance requirements (See *Appendix A*)
- Meet all requirements in the *Scope of Work and Technical Requirements* section
- Provide Santee Cooper an innovative and detailed solution to DR integration
- Identify growth opportunities for future DR expansion
- Demonstrate knowledge of Santee Cooper's customer base and their needs

6. Proposal Instructions

The vendor must send Santee Cooper a Letter of Intent by 12:00 p.m. EST on June 18, 2020. This must be submitted before responding to the proposal stating their intent to submit a proposal by 12:00 p.m. on July 14, 2020.

1. When preparing proposals, vendors are required to complete all areas of this RFP according to the instructions for the section(s) they are bidding on. The turn-key solution will need to compile all sections in one proposal.

   - Letter of Intent – specify the sections you are bidding on
   - Executive Summary
   - Supplier profile, including subject experience history
   - Vendor qualifications
   - Cost information in **BOTH separate electronic *Pricing Worksheets***.
   - Samples of marketing (marketing section only) and program documents

2. Vendors must submit all answers to the questions in the **separate electronic *RFP Questions* document**. All answers to the questions must be in the order listed. The answers will need to be immediately under each numbered question. Vendors should avoid requiring the reader to search for answers. All *Yes* or *No* responses should have further explanation whenever possible to explain the answer provided. Brief, concise answers are preferred with relevant details of the processes. Failure to respond as described will affect your overall scoring of the RFP and could result in the disqualification of the response.

3. All examples will need to be in the *Appendix* section and labeled.

4. Vendors may provide additional information on the company, vision, direction, experience, or other pertinent information they believe differentiates them from other competitors in the *Appendix* section.

5. Eight (8) non-priced and one (1) priced copy of the RFP responses shall be submitted in non-transparent, sealed envelopes/boxes. One (1) emailed non-priced and one (1) emailed priced copy is also required. It should be clearly stated which copies are the non-priced and priced copies. Proposals must be formatted in the same manner as the proposal responses. All tables/spreadsheets should retain their numerical sequence and content integrity. Each table/spreadsheet should be clearly articulated by the reader. Proposals which do not meet these format requirements risk disqualification.

No modifications to the proposals, including additional information, will be accepted after this deadline unless requested by Santee Cooper.

All proposals must be submitted to the following addresses:

> <u>Paper Copy:</u>
> Santee Cooper
> Attention: Corporate Secretary
> 1 Riverwood Drive
> Moncks Corner, SC 29461
>
> <u>Email Copy:</u>
> corporate.secretary@santeecooper.com

All correspondence, communications and questions relating to the proposals should be directed via email to Megan Davis at megan.davis@santeecooper.com. The vendor is responsible for verifying receipt of all electronic communication and documentation. Contact with any other Santee Cooper personnel not specifically identified in this document including, but not limited to, Santee Cooper management or members of the Board of Directors, regarding this project is prohibited and is grounds for rejection of your proposal without further explanation.

6.1 Proposal Section 1: Letter of Intent

The Letter of Intent will indicate the intention of the vendor to adhere to the provisions described in the RFP without modification. The Letter of Intent will do the following:

- Identify the submitting organization
- Identify the person, by name and title, authorized to obligate the organization contractually
- Identify the contact person responsible for this response. Specify phone, fax, email address, and address
- Explicitly indicate review and acceptance of the Terms and Conditions and identify exceptions
- Acknowledge the proposal is considered firm for ninety (90) days after the due date for receipt of proposals or receipt of the last revised offer submitted
- Acknowledge completion of the **separate electronic *RFP Questions* document and BOTH *Pricing Worksheets*.**
- Signature of person authorized to contractually obligate the organization

6.2 Proposal Section 2: Executive Summary

The vendor(s) will provide an Executive Summary that presents a brief, concise summary of the contents in the proposal being submitted. In addition, the Executive Summary shall include detailed information on the recommended strategies and technologies for the DR program.

6.3 Proposal Section 3: Vendor Profile and Product History

The vendor(s) will provide a profile of its organization and all other organizations providing products or services in support of their proposed solution, either as a subcontractor or through a separate contract with Santee Cooper (to be negotiated). The vendor may attach any additional literature and product brochures in the *Appendix* section.

All vendor(s), regardless of which section you are bidding, must submit all answers to the questions below in the **separate electronic *RFP Questions* document**.

1.0	Vendor Profile			
1.1	Indicate year established. **Vendor Response:**			
1.2	Indicate parent company and the subsidiary offering the product, if any. **Vendor Response:**			
1.3	What is your reporting period (fiscal year)? **Vendor Response:**			
1.4	Does your company issue an annual report? Please answer Yes or No • If yes, please enclose a copy. • If no, please enclose a copy of the latest audited financial statement. **Vendor Response:**			
1.5	Where is the office anticipated to serve Santee Cooper with this program located, and what is the experience of your project team for this project? **Vendor Response:**			
1.6	Indicate total number of employees. (Breakdown of staff: Development, Implementation Services, Support, Administrative) **Vendor Response:**			
1.7	Is the company privately owned? **Vendor Response:**			
1.8	Is the company funded entirely by sales? **Vendor Response:**			
1.9	Indicate (total) revenue for the last three years. **Vendor Response:**	2019	2018	2017
1.10	Indicate yearly gross sales and net income for the last three years. **Vendor Response:**	2019	2018	2017
1.11	Indicate total customers for the last three years in North America. **Vendor Response:**	2019	2018	2017
1.12	List any relevant awards in the last three (3) years. **Vendor Response:**			

2.0	Contractor History
2.1	Indicate number of electric utility clients (specify investor-owned or publicly owned). **Vendor Response:**
3.0	Vision
3.1	**Strategies for Differentiation:** How will your company differentiate itself in the marketplace (in terms of products, services, relationships, etc.)? **Vendor Response:**
3.2	**Plans for Expanding Market Share:** Describe ways in which your company plans to expand its market share. Please describe the areas and timing of these efforts. **Vendor Response:**
3.3	**Future Product Offerings:** Describe plans and timing for future product offerings and enhancements. **Vendor Response:**
3.4	**Future Service Offerings:** Describe plans and timing for future service offerings. **Vendor Response:**
3.5	**Partner Relationships (Other):** What additional partner relationships are in existence that are relevant to the product? What relationships are planned in the future? **Vendor Response:**

All vendor(s) providing a product or service that is a hosted solution, regardless of which section you are bidding, must submit all answers to the questions below in the **separate electronic *RFP Questions* document**.

If you are not the sole vendor of the proposed solution, complete the *Hosted Solution Vendor Profile and Product History* information FOR EACH PARTNERING ENTITY. Include each component and how those services are classified (i.e., Third-Party Host Partner = Amazon/Hosted component = Servers, Storage/Classification = Infrastructure as a Service (IaaS)).

Hosted Solution Vendor Profile and Product History

1.0	Vendor Profile			
1.1	Indicate year established. **Vendor Response:**			
1.2	Indicate parent company and the subsidiary offering the product, if any. **Vendor Response:**			
1.3	What is your reporting period (fiscal year)? **Vendor Response:**			
1.4	Does your company issue an annual report? Please answer Yes or No • If yes, please enclose a copy. • If no, please enclose a copy of the latest audited financial statement. **Vendor Response:**			
1.5	Where is the office anticipated to serve Santee Cooper with this program located, and what is the experience of your project team for this project? **Vendor Response:**			
1.6	Indicate total number of corporate employees. **Vendor Response:**			
1.7	Is the company public or privately held? **Vendor Response:**			
	Revenue from Hosted Solutions (like proposed)	**2019**	**2018**	**2017**
1.8	Indicate (total) hosting revenue for the last three years.			
1.9	Indicate annual hosting sales and net income for the last three years.			
1.10	Indicate total hosting research and development percent allocation as a percentage of total income for the last three years.			
1.11	Indicate total hosted customers/users for the last three years in the Americas.			
1.12	List any relevant awards in the last three (3) years. **Vendor Response:**			
2.0	Product History			
2.1	How many years have you been providing hosted solutions similar to the one being proposed? **Vendor Response:**			
2.2	How many implementations have you performed similar to the one being proposed? **Vendor Response:**			

2.3	How much of your company's revenue (*see 1.4 above*) is derived from hosted solutions similar to the one being proposed in this RFP? **Vendor Response:**
2.4	Indicate current product release number, date of release, and detail of enhancement. **Vendor Response:**
2.5	State expected date of the next release and listing of proposed enhancements. **Vendor Response:**
2.6	Indicate number of employees focused on the product offering. **Vendor Response:**
2.7	Indicate number of electric utility client installations. **Vendor Response:**
2.8	Disclose any manufacturer and/or implementer litigation that relates directly to the product. **Vendor Response:**
3.0	**Vision**
3.1	How does your company differentiate itself in the market (in terms of products, services, relationships, etc.)? **Vendor Response:**
3.2	Does your company plan to expand its market? Which markets do you/will you target? **Vendor Response:**
3.3	What drives the prioritization of fixes and future development/enhancements? **Vendor Response:**
3.4	What areas does your company plan to invest? To what goals are the investments linked? Please specify the time frame. **Vendor Response:**
3.5	Describe plans for future product offerings and enhancements. **Vendor Response:**
3.6	Describe plans for future service offerings. **Vendor Response:**

All vendor(s) that are providing a product or service through a third-party, regardless of which section you are bidding, must submit all answers to the questions below in the **separate electronic *RFP Questions* document**.

Third-Party Vendor Profile (Switch vendor, include manufacturer here)

1.0	Vendor Profile
1.1	Indicate year established. **Supplier Response:**
1.2	Indicate parent company and the subsidiary offering the product, if any. **Supplier Response:**
1.3	Where is the office that is anticipated to serve Santee Cooper with this program located? Does it exist already? What experience does the project team that will be working on this project have? **Supplier Response:**
1.4	Indicate total number of employees. (Breakdown of staff: Development, Implementation Services, Support, Administrative) **Supplier Response:**
1.5	Is the company privately owned? **Supplier Response:**
1.6	List any relevant awards in the last three (3) years. **Supplier Response:**
2.0	Contractor History
2.1	Indicate number of electric utility clients (specify investor-owned or publicly owned). **Supplier Response:**
2.2	What are your top three largest deployments? Please describe each of these. **Supplier Response:**
3.0	Vision
3.1	Please describe all aspects of third-party involvement with this program. Explain the services/products the third-party will provide. **Supplier Response:**

6.4 Proposal Section 4: Vendor Qualifications

The vendor(s) must have a demonstrated track record in providing services for the proposed solution, which should reflect experience in work of a similar nature and magnitude to that being proposed. Relevant experience must be associated with projects completed no more than two (2) years prior to the date of this RFP. The vendor(s) should highlight their experience with electric utilities in the United States, preferably those that peak in the winter and are located in the Southeast. This experience should include their expertise with the proposed solutions within the residential and small commercial sectors.

The vendor(s) shall provide a listing of its current clients that demonstrate the experience required for Santee Cooper's program. Please complete the client listing in the **separate electronic *RFP Questions* document**. Add rows to the table as appropriate. **These references are a requirement for a complete RFP response. These references may**

be contacted directly by Santee Cooper, without bidder participation, as part of the evaluation process. Any information obtained will be considered confidential and used only in the context of evaluating the responses to this RFP.

Client List (Utilities ONLY – both investor and publicly-owned)

*Additional references can be included in the *Appendix* section.

Reference 1	
Organization name	
Contact name, title, phone number, and email address	
Type of program – include number of customers, MW reduction and switches used	
Run date of program	

Reference 2	
Organization name	
Contact name, title, phone number, and email address	
Type of Program – include number of customers, MW reduction and switches used	
Run date of program	

Reference 3	
Organization name	
Contact name, title, phone number, and email address	
Type of program – include number of customers, MW reduction and switches used	
Run date of program	

6.5 Proposal Section 5: Requirements

The vendor(s) will present their project timeline and approach in this section. Please complete the questions below in the **separate electronic *RFP Questions* document**.

Section 1	Program Questions – All Vendors
Santee Cooper and Vendor Relations	
1.00	Vendor must meet all requirements and responsibilities set forth in the *Scope of Work and Technical Requirements* section above. If you cannot meet all the roles, responsibilities and requirements, please state which of these you cannot meet and why. **Vendor Response:**
1.01	State strategies proposed to maintain a high level of customer service. Provide examples of high customer service your organization has displayed. **Vendor Response:**
1.02	Vendor must meet Santee Cooper's insurance requirements (See *Appendix A*). Please verify that you can meet this requirement. **Vendor Response:**
1.03	Vendor will provide access to resources during the bid process. Please list potential employees who will help with each phase of the process. Include the following details on each employee: • Phase of program they are responsible for • Skill level • Related experience • Detailed resumes (Word document) *Note:* The cost portrayed in the cost section will need to indicate the cost structure (fixed cost or variable cost per employee) for these employees. **Vendor Response:**
1.04	Santee Cooper reserves the right to interview all prospective team members as proposed by the vendor, prior to start of work, and in Santee Cooper's sole discretion, to accept or reject any team member. Members may be jointly identified during the development of the project plan. During the project, Santee Cooper has the right to remove any vendor team member. Santee Cooper shall notify vendor and request that such individual be replaced. If any individual is removed, vendor shall replace that team member immediately. The replacement shall be subject to Santee Cooper review and approval. Please provide supporting documentation for depicting the vendor's agreement. **Vendor Response:**
1.05	Vendor's staff and subcontractors shall comply with Santee Cooper's confidentiality and privacy requirements. **Vendor's Response:**

1.06	Vendor will provide a timeline from award to implementation showing the roles the vendor team members are planning to fulfill in each phase. Identify each team member as being an employee of the vendor or subcontractor. **Vendor Response:**
1.07	Provide a project timeline (three years) for a DR program utilizing switches, including residential and commercial sectors, which meet the minimum requirements stated in the *Scope of Work and Technical Requirements*. Santee Cooper is proposing the following timeline: • Residential pilot – Quarter 1 of 2021 • Residential full-scale – Quarter 1 of 2022 • Commercial pilot – Quarter 4 of 2021 • Commercial full-scale – Quarter 4 of 2022 Please provide alternative recommendations to this timeline as you see fit. **Vendor Response:**
1.08	Describe the solutions presented in the above timeline for the different customer sectors. Specify if these solutions are in production or in a development environment. **Vendor Response:**
1.09	Vendor will work in coordination with Santee Cooper's Technology Services to meet all cybersecurity requirements. **Vendor Response:**
1.10	Please provide details on how your product plans to limit any risk to Santee Cooper's exposure to cybersecurity threats. **Vendor Response:**
1.11	Please provide a brief overview as to why Santee Cooper should select your proposal as the best solution for their DR program. **Vendor Response:**
Section 2	**Switch Vendor Questions and Responses**
	Integration with DERMS
2.00	Describe, in detail, the methods in which your system head-end typically interfaces with a DERMS. Would you recommend this strategy at Santee Cooper? If not, please describe the strategy you recommend. **Vendor Response:**
2.01	Please include any technical and/or informational documents on your interface/API capabilities to connect to a proposed DERMS. **Vendor Response:**
2.02	Is your DR switch vendor-neutral in its ability to integrate with any DERMS Vendor? **Vendor Response:**

Data	
2.03	Do you keep data on your servers? How long is this data stored? Who is the owner of the data? **Vendor Response:**
2.04	What is the frequency at which your DR switch will transmit data? How often do you recommend transmitting data? (i.e., every hour, every two hours, etc.) **Vendor Response:**
2.05	Santee Cooper previously mentioned one-minute appliance run-time interval data in the *Scope of Work and Technical Requirements* section. If you can't meet this requirement, please state the amount of time you can meet. **Vendor Response:**
2.06	How do you verify your one-minute run time data is accurate? **Vendor Response:**
Cellular Network	
2.07	What User Equipment ("UE") category of the 4G LTE network will you use? What UE category of the 4G LTE network does your modem support? Please list all the supported UE categories (i.e., Category M1, Category 1, etc.). **Vendor Response:**
2.08	Who do you use as your cellular network vendor? Verizon is the preferred vendor. **Vendor Response:**
2.09	What is your plan for transitioning from the 4G LTE cellular network to the 5G cellular network? **Vendor Response:**
2.10	Can your DR switch equipped with 4G LTE modems fully function on 5G cellular network? **Vendor Response:**
2.11	Will your DR switch equipped with 4G LTE modems fully become desupported at some point? If so, what is the timeframe for this? **Vendor Response:**
2.12	What would be required to upgrade the 4G LTE modems to 5G modems? (i.e., new switch installs, new modem install, etc.) **Vendor Response:**
2.13	How does your switch respond and reconnect after losing the cellular connection? **Vendor's Response:**
2.14	Does your switch have the ability to include an external antenna for better cellular coverage? **Vendor's Response:**

2.15	Based on your experience with utilities, what is the typical monthly data usage per switch? Please provide assumptions such as interval of the data, frequency of data of transmission, type of data being transmitted, etc. **Vendor's Response:**
	Appliance Control
2.16	Can the DR switch provide four independent functions and four relays for load control? • Three functions for HVAC control (compressor/condenser, indoor fan and electric heat strip) • One function for WH control **Vendor Response:**
2.17	Can the switch provide a single function line voltage (240 VAC) DR switch that can be used to control only the WH? **Vendor Response:**
2.18	Can the switch provide a three-function, low voltage (24 VAC) DR switch that can be used to control only the HVAC system? **Vendor Response:**
2.19	Can the single-function DR switch for the WH also contain a 30A, one horsepower inductive-rated relay that supports the ability to control pool pumps? Can your switch(es) control any other appliances? **Vendor Response:**
2.20	For safety, when the relay that controls the indoor fan is in the shed mode, the DR switch shall always shed the electric heat strip as well. Please describe how your switch does this. **Vendor Response:**
	Installation
2.21	Describe the typical installation process of the four-function DR switch at the customer site. Please include details regarding installation time, necessary qualifications of installer and required installation training. **Vendor Response:**
2.22	How does the DR switch, and its accompanying installation testing functionality, support validation of the wiring and control of the residential HVAC unit and/or WH? **Vendor Response:**
2.23	One of Santee Cooper's goals is to make the install of the DR switch as efficient as possible. Please provide specifics and features about your DR switch that will make the installation job of the implementer straightforward. Some specifics and features may include, but are not limited to, junction box within the switch housing, color-coded wire, length of wire, etc. Please describe these features for each switch you are recommending in your bid and provide spec sheets. **Vendor Response:**
2.24	Santee Cooper prefers the DR switch to contain an integrated junction box for field wiring connection. Please explain your approach. **Vendor Response:**

	Customer Convenience
2.25	Ensuring minimal customer inconvenience during DR events is essential to Santee Cooper's program. Please describe your company's approach to ensuring customer convenience and outline any customer convenience offerings your product includes (i.e., equipment monitoring, water heater leak detection, convenience monitoring, etc.). **Vendor Response:**
	Implementation
2.26	How do you aggregate and sub-aggregate DR events where various levels of dispatch are required? Is this done on a basis of MWs, region, or both MWs and region? **Vendor Response:**
2.27	Is your system head-end scalable and capable of managing 100,000+ switches within a one-minute time frame? If not, please specify the maximum number of switches that can be managed during this time frame. **Vendor Response:**
2.28	What is your end-to-end time for operating the load control relay in the switch (i.e., the total elapsed time from the moment the load shed command is started until the relay operates)? How long does it take for the switch to give confirmation of control? **Vendor Response:**
2.29	Can you provide the ability to remotely control an external relay (a single pole normally closed relay, 30A 240 VAC)? Can the switch control multiple external relays? Please explain. **Vendor Response:**
2.30	What is the maximum number of switches your system head-end can handle? **Vendor Response:**
2.31	Does the DR switch have any load usage measuring capability? • Is this functionality available for each controlled component? • How frequently is this data uploaded to the system head-end data base for either near-real-time analysis or for subsequent non-real-time review and analysis? • Can any usage or load statistics collected by the DR switches be solicited on demand and/or uploaded on a routine basis? Please explain any options and capabilities. **Vendor Response:**
2.32	Please include any technical and/or informational documents on the system head-end and DR switches. **Vendor Response:**

	Verification
2.33	The manufacturer must provide field test equipment to be utilized to verify the correct functionality of the installation. **Vendor Response:**
2.34	How does the system head-end show the DR switches are healthy and communicating on a periodic basis? **Vendor Response:**
	Information Technology
2.35	Is the clustering of servers required to scale and control 100,000+ switches? **Vendor Response:**
2.36	Can the system head-end servers be virtualized? **Vendor Response:**
2.37	How does the system update DR switches OTA for firmware or security patches, and what is required to perform these updates? What role will the utility play in these updates? What effect will these updates have on Santee Cooper's ability to call an event? **Vendor Response:**
2.38	Vendor must provide an overview of the proposed technology needed for the switch portion of this program (i.e., hardware, software, interfaces, switches). Provide spec sheets for any switches. **Vendor Response:**
2.39	What are the software requirements for your system head-end software? **Vendor Response:**
	Security
2.40	What security measures and anti-tamper detection features do the DR switches and corresponding system head-end controller system have? **Vendor Response:**
2.41	Please include any technical and/or informational documents on the security of data/IT security. Include an architectural diagram of data paths and related data transfer protocols. **Vendor Response:**
2.42	Vendor will work in coordination with Santee Cooper's Technology Services to meet all cybersecurity requirements. **Vendor Response:**
	Manufacturing
2.43	Where are your DR switches manufactured? How long have they been manufactured there? **Vendor Response:**
2.44	Please describe your manufacturing and inventory processes. **Vendor Response:**
2.45	Please describe your switch warranty and the warranty process. **Vendor Response:**

2.46	Will a SIM card be included in the cost? Please verify that you will install this SIM card in the switch. Please describe your process for ordering and receiving the SIM cards and Santee Cooper's involvement. **Vendor Response:**
2.47	Can you meet all the *Ratings and Standards* requirements listed in section 4.2? If not, please elaborate. **Vendor Response:**
2.48	What type of Quality Assurance ("QA") processes do you follow? **Vendor Response:**
2.49	What is the life expectancy of the switch? Is there adequate memory to support firmware upgrades for the life of the switch? **Vendor Response:**
2.50	What is the failure rate of the switch? Please describe how you resolve claims against the defective switch. Do you cover the cost of the defective switch and the associated shipping costs? **Vendor Response:**
Manufacturing Third Party	
2.51	Identify and detail the entity and the bodies of work any third parties (subcontractors) will be responsible for providing. **Vendor Response:**
2.52	Vendor shall manage the contribution of third parties (subcontractors) for each project. Describe your approach for managing third-party contributors and indicate those legal and operational structures that are required to make the projects successful. **Vendor Response:**
Section 3	**DERMS Vendor Questions and Responses**
Implementation	
3.00	How and when do you notify customers of an event? **Vendor Response:**
3.01	How do customers opt-out of an event, if allowed by the program design? Please list channels of communication for opting-out. **Vendor Response:**
3.02	Detail how the DERMS will execute a control event when notified of the date and times of the control event. Identify the customer notification period needed. **Vendor Response:**
3.03	Please provide information and examples of notification that may be sent to Santee Cooper's customers pre-event, during event and post-event. **Vendor Response:**

Forecasting	
3.04	Please provide information and examples of parameters used for forecasting baseline load forecasts and load shed forecast. **Vendor Response:**
3.05	What is included in the load shed forecast? Please explain. **Vendor Response:**
Reporting	
3.06	What is included in your summary of program participation (i.e., full participation, opted-out, offline, etc.)? Please include examples. **Vendor Response:**
3.07	Vendor will need to send reports to Santee Cooper concerning events (i.e., opt-outs, how many events, etc.). Please explain the type and format of available reports and pertinent information that will be included in the reports. Please provide report examples and/or screenshots. **Vendor Response:**
3.08	What is reported in the event report? Please provide examples and screenshots of reports generated before, during and after an event such as, but not limited to, forecasted baseline load forecast, load shed forecast, and actual load shed. Please include any additional information it includes. **Vendor Response:**
Targeted Dispatch	
3.09	Can your DERMS use software to tag and dispatch DERs at the substation, feeder, transformer, or circuit level based on local grid conditions, easing the impact of DERs on the network? Please describe. **Vendor Response:**
3.10	Can your DERMS deliver pinpointed dispatch of aggregated DERs, either manually or automatically, for operational flexibility? Please describe. **Vendor Response:**
Usability	
3.11	Please provide information, examples and screenshots of the utility sign-in portal. If available, include Customer Information Management System ("CIMS") details. **Vendor Response:**
3.12	What is included in your DERMS system event page (i.e., average load shed, maximum load shed, average load shed per device, etc.)? Please include examples. **Vendor Response:**
3.13	Specify the process you will use to integrate your DERMS into the various Santee Cooper operational systems. **Vendor Response:**

3.14	Describe how customer information and other program metrics will be compiled and tracked. Explain how this information will be submitted to Santee Cooper. **Vendor Response:**
3.15	Please provide an overview of the proposed technology to integrate DERMS into this program (i.e., hardware, software, interfaces, devices, etc.). **Vendor Response:**
3.16	Identify and explain housing, maintaining and operating of the control software and customer interfaces that will be utilized. **Vendor Response:**
3.17	Is your DERMS supported by a third-party, web-based cloud service or located in your own data centers? • If your DERMS is supported by a third-party web-based service, please identify the service that you use (i.e., Amazon Web Services, Microsoft Azure, etc.). • If your own data centers are used, can you provide the specifications of real-time upgrades by utilizing high availability clustering and load balance failover? This would allow Santee Cooper to upgrade the backup and failover to the primary real time with no data loss. **Vendor Response:**
Data	
3.18	How long of a data look back period is typically required for the development of the advanced load control strategies that have been previously described? How much data will be kept on file at any one time? **Vendor Response:**
3.19	How long is data kept in the server? Or, how long do you recommend keeping data on the server? **Vendor Response:**
Control Strategy	
3.20	What DR parameters (i.e., run-time data, time, temperature, etc.) are utilized to develop load control strategies? **Vendor Response:**
3.21	Please describe a potential control strategy for a utility that peaks in the winter and has the ability to manage the WH and each function of the HVAC (compressor/condenser, fan and electric heat strips). **Vendor Response:**
3.22	Please describe a potential control strategy for a utility that peaks in the summer and has the ability to manage the WH and each function of the HVAC (compressor/condenser, fan and electric heat strips). **Vendor Response:**

3.23	Does your DERMS have the ability to develop control strategies based on short interval run-time data (one minute) for each device and subcomponents that are connected to the DR system? **Vendor Response:**
3.24	Describe ways in which your DERMS manages demand in aggregate to counteract the impacts of intermittent distributed generation. **Vendor Response:**
Measurement & Verification	
3.25	Please provide information detailing your process for delivering measurement and verification of the DR system's performance during and after load control events. **Vendor Response:**
3.26	Please provide information for the accuracy of your measurement and verification for other utilities. **Vendor Response:**
Integration	
3.27	Can you integrate to Oracle Meter Solution Cloud Service ("MSCS") and Oracle Integration Cloud ("OIC")? This brings together all the capabilities of application integration, process automation, visual application building, and integration analytics into a single, unified cloud service. **Vendor Response:**
3.28	Does your DERMS support the development of APIs that allow integration with other utility systems, including but not limited to CIS, MDMS, DMS, or market systems? **Vendor Response:**
3.29	Do you have the capabilities to interact with a corporate extract transform, load process? **Vendor Response:**
3.30	Is your DERMS vendor-neutral in its ability to integrate with any hardware vendor such as DR switch vendor, EV vendor, smart inverter vendor, etc.? **Vendor Response:**
Communication & Standards	
3.31	Please list any DER-related industry product standards that you support and explain their purpose. (i.e., OpenADR2.0a, OpenADR2.0b etc.) **Vendor Response:**
3.32	Please provide an architectural diagram of data transmission from the DR switch system head-end to the DERMS server. Please detail the type of communication and communication protocols within the diagram. **Vendor Response:**

	Additional DER Capabilities
3.33	Please explain how your DERMS could be expanded beyond DR to include other DERs. What DERs do you currently support and plan to support in the future? **Vendor Response:**
3.34	Please describe your approach to providing scalability of communication, dispatch and optimization modules to provide support for a large volume of DERs. **Vendor Response:**
3.35	Are you able to cost-effectively scale your DERMS to include many DERs? Please specify (Do not include costs in this section). **Vendor Response:**
3.36	Please provide information, examples and screenshots of additional DER modules that your DERMS currently has available. Some of these modules may include, but are not limited to, electric vehicles, smart inverters, BYOT DR, commercial and industrial DR, etc. **Vendor Response:**
3.37	Does your DERMS limit photovoltaic output in real time to prevent reverse flows and high local voltages? **Vendor Response:**
3.38	Does your DERMS alleviate or eliminate power quality issues by sending targeted power quality settings to groups of smart inverters? **Vendor Response:**
3.39	Does your DERMS utilize DR groups for capacity and ancillary service applications through advanced predictive analytics and dispatch optimization? **Vendor Response:**
3.40	Does your DERMS provide support for the interface and control of industrial energy management systems and third-party APIs widely used by battery storage and other distributed energy assets? **Vendor Response:**
Section 4	**Implementor and Marketing Questions and Responses**
	Implementor Strategies
4.00	Specify program structure and offerings for a residential and commercial switch program (i.e., program incentive, program implementation strategy, customer service benefits, program materials, etc.) for Santee Cooper and their customers within its retail service areas. **Vendor Response:**
4.01	Please describe your strategic direction for implementation (i.e., new and improved methods and processes, etc.). **Vendor Response:**

Participant Recruitment & Enrollment	
4.02	Describe the recruiting process to achieve the required number of participants, which is included in BOTH separate electronic Pricing Worksheets. What is the highest adoption rate (total number of utility customers and number of program participants) you have been able to achieve? What is the yearly HVAC adoption that you expect Santee Cooper to encounter, through 2039, with this program? What is the yearly WH adoption that you expect Santee Cooper to encounter, through 2039, with this program? Detail the retention process to retain the recruited customers. **Vendor Response:**
4.03	Do you have a CIMS? Please describe the design of the customer portal and how the customer utilizes it. How will Santee Cooper be involved in this process? Is this portal used for enrolling and tracking participates? How will this information be sent to Santee Cooper? Please describe your security procedures and measures. **Vendor Response:**
4.04	This DR program will be contingent upon 4G LTE availability at a customers' premises. Please describe how you will recruit and screen customers based on their 4G LTE availability at their premises. **Vendor Response:**
Call Center	
4.05	Vendor must have a call center, with English as the primary language, that will handle customer calls that are in both English and Spanish. Please describe the setup of the call center. (i.e., staffing, location, training, technology resources, etc.) **Vendor Response:**
4.06	Describe the staffing of vendor's call center. How many Customer Service Representatives ("CSRs") will be responsible for program support? **Vendor Response:**
4.07	Describe typical responsibilities of the call center's CSRs. Please include responsibilities such as customer eligibility screening, program enrollment, appointment scheduling, etc. **Vendor Response:**
4.08	Describe the process the CSRs will follow to enter customer activity into a database. What database will be used? **Vendor Response:**
4.09	The call center must have after-hours response. Please describe typical hours and after-hours functionality and staffing. **Vendor Response:**
4.10	The call center shall be responsible for scheduling installation appointments, service calls and repairs. The CSR must dispatch a technician in an appropriate amount of time. (This time will be provided by Santee Cooper). **Vendor Response:**

4.11	The call center shall be responsible for enrollment. **Vendor Response:**
4.12	If a customer cancels a scheduled appointment, what steps will be taken to reschedule the appointment? Please describe this process. **Vendor Response:**
Customer Interaction	
4.13	Please describe your interaction with a customer, including recruiting, enrollment and install activities. If you cannot make a scheduled appointment with a customer, please describe your cancellation and rescheduling process. **Vendor Response:**
4.14	How would you resolve a customer complaint? Please provide an example. **Vendor Response:**
4.15	What are your typical installation hours, and would you be willing to install switches after working hours? What is the duration from a call being received to an appointment being scheduled? What is the typical duration from the time an appointment is scheduled to the time the installation is complete? How many attempts will the contractor make for scheduling an installation appointment? **Vendor Response:**
4.16	State strategies being proposed to maintain a high level of customer service from first contact through final interaction. Include examples of high customer service from similar programs you have designed and implemented. **Vendor Response:**
4.17	Please describe how you will respond to service calls? How will you handle customer interactions? **Vendor Response:**
4.18	Please list the channels the customer can utilize to opt-out of an event. Please describe this process. **Vendor Response:**
Installation	
4.19	Each installation shall conform to all *local* and *national* code requirements. It should be noted that some of the requirements contained herein may exceed NEC requirements based on Santee Cooper requirements. **Vendor Response:**
4.20	How many individual customer sites (end-users) has your company installed with DR switches? **Vendor Response:**
4.21	How many new installation premises are planned for 2021 (excluding the sites that may result from a Santee Cooper program)? **Vendor Response:**

4.22	How many new switch installations have been installed in the last three years? **Vendor Response:**
4.23	Please describe your experience installing DR switches designed for controlling HVAC and WH. **Vendor Response:**
4.24	How will you install external relays, specifically for mobile homes? **Vendor Response:**
4.25	Santee Cooper may decide to include temperature and humidity monitoring devices inside the premises to monitor the customer's convenience. Please describe your experience with such devices. **Vendor Response:**
4.26	Please describe your experience with local permitting and code enforcement. Does this type of installation typically warrant pulling a permit or obtaining an inspection from local code enforcement? In your past experiences, has this type of installation violated any local ordinances. **Vendor Response:**
Program Design	
4.27	Please describe the project organization you recommend for governance and management of this program. Define the accountability of each of the organizational roles for both Santee Cooper, your organization and any third parties. **Vendor Response:**
4.28	If a customer does not own the property in which they reside, describe the procedure and forms that allow the customer to participate in the program. **Vendor Response:**
4.29	If a customer requests to be removed from the program, please describe the process. **Vendor Response:**
4.30	Santee Cooper's retail service area includes many multi-family housings such as HOAs, POAs, etc. Explain how these customers will be included in the DR program. **Vendor Response:**
4.31	Specify and describe the development of program documents including manuals and all forms needed for participation. Please describe the manual and forms that will be developed. Examples are strongly recommended and should be included in the *Appendix* section. **Vendor Response:**
4.32	What is your average program stand-up time from contract signature to program launch? Please detail the necessary steps. **Vendor Response:**
4.33	Vendor may be requested to provide rebate processing for customers. Please describe the rebate process flow. **Vendor Response:**

	Information Technology
4.34	Please describe your CIMS. Provide screenshots and examples of the following: participant management, scheduling, work order management, device inventory control, incentive payment capabilities, quality control, integration into CIS, report generation tool, integration to DR system, data requirements, and system architecture. **Vendor Response:**
4.35	What is your file transfer protocol from CIMS to Santee Cooper's systems? **Vendor Response:**
	Quality Assurance
4.36	QA activities need to be performed by the contractor. Please include a QA plan in the *Appendix* section of your bid. Please describe this process. **Vendor Response:**
4.37	Field test equipment will be available from the equipment manufacturer that can be used to verify the correct functionality of the installation. Please describe your experience with such equipment. **Vendor Response:**
	Payment Structure
4.38	Please explain if you have a pay-for-performance option and describe it in detail (<u>Do not include costs in this section</u>). **Vendor Response:**
Section 5	**Marketing Consultant Questions and Responses**
	Marketing Tactics & Strategies
5.00	Please describe your experience marketing DR programs in the last three years. **Vendor Response:**
5.01	Please list all utilities that you have marketed a DR program for and provide examples of marketing materials. **Vendor Response:**
5.02	Have you marketed a DR program in the southeastern region of the United States? Have you ever marketed a program for a utility that peaks in the winter? If so, please describe your success and failures in this region. **Vendor Response:**
5.03	The marketing consultant must be able to market to both the residential and commercial customers of Santee Cooper. Please describe your experiences in marketing a DR program to both of these customer sectors. **Vendor Response:**
5.04	Please describe marketing strategies and marketing avenues. Please provide examples of these (i.e., bill inserts, website information, social media advertisements, etc.) for a DR program. **Vendor Response:**

5.05	Santee Cooper's objective is to develop a DR program that will deliver reliability while maintaining customer convenience through provided technologies. What marketing strategy will you use to communicate with the customer that Santee Cooper is going to limit any inconvenience during an event? **Vendor Response:**
5.06	A portion of Santee Cooper's retail service territory is a vacation community which consist of home rentals, second homes and vacation homes. Please describe marketing strategies for the different customer demographics. **Vendor Response:**
5.07	Please describe your marketing strategy for the following: • Residential single-family customers • Residential multi-family customers • Commercial customers **Vendor Response:**
5.08	Please describe your experience and working relationship with the implementor contractor that you have partnered with. **Vendor Response:**
Marketing Tracking	
5.09	Please describe how customer interactions with and responses to social media and other marketing strategies are compiled and tracked. **Vendor Response:**
5.10	Please describe how you determine which marketing media or channels are successful and which are not. How do you utilize this information to develop additional strategies? **Vendor Response:**
Incentives	
5.11	Please recommend frequency and amount of incentive offers per customer. Please include logic that supports these recommendations. **Vendor Response:**
5.12	What is your experience with incentivizing customers based on load shed performance? **Vendor Response:**

Please complete the Cyber Security Project Questionnaire in the **separate electronic *RFP Questions* document**. (N/A, for not applicable):

Cyber Security Project Questionnaire

Section 6	Software System Requirements	Delivered or Additional Cost? (Provide costs where applicable)
Functionality Requirements		
6.00	Does the system provide detailed error messages which can be used in troubleshooting problems? Are all errors trapped, logged and displayed? Please explain. **Vendor Response:**	
6.01	Does the system provide user configurable warning/error messages? **Vendor Response:**	
6.02	Does the system provide windows-like point and click navigation? **Vendor Response:**	
6.03	Is on-line help available and can it be printed if necessary, for system, function, screen, and field levels? **Vendor Response:**	
6.04	Does on-line help provide an index and search capability? **Vendor Response:**	
6.05	Is on-line help context sensitive? Does the system recognize cursor position for a fast path to the help text? **Vendor Response:**	
6.06	Is the online help customizable? **Vendor Response:**	
Usability Requirements		
6.07	Are screens customizable for each user? Please explain. **Vendor Response:**	
6.08	How does the proposed solution address repetitive data entry situations (i.e., when performing daily tasks and moving between various displays)? **Vendor Response:**	

6.09	Please describe any shortcut or macro capabilities provided with your solution for automating routine tasks. **Vendor Response:**	
6.10	To evaluate ease of use, describe the steps taken for a novice user to enter multiple tasks, add a new record, delete record, etc. List primary functions. **Vendor Response:**	
Data and Querying		
6.11	Please describe the proposed database server configuration. Please include if it is virtual or physical and how the operating system is employed. **Vendor Response:**	
6.12	In what format is the data stored (i.e., Oracle, SQL, Access, etc.)? **Vendor Response:**	
6.13	Can existing Santee Cooper data be migrated or exported into your proposed solution? Describe methodology. **Vendor Response:**	
6.14	Do you provide or are there any specific tools available to assist with data conversion/migration, if needed? If so, please explain. **Vendor Response:**	
6.15	How many years of history are you proposing to maintain on-line for immediate access? **Vendor Response:**	
6.16	What options are available for data outside the specified on-line timeframe (i.e., archive or purge)? **Vendor Response:**	
6.17	Are any methods or tools available to perform direct queries against the database? Please describe below. **Vendor Response:**	
6.18	If data is permanently returned to Santee Cooper, in what format will the data be provided? The data must be in a format in which Santee Cooper can recover. **Vendor Response:**	

6.19	If proposing a solution not hosted by Santee Cooper, is the database accessed by Santee Cooper hosted on a single or multi-tenant server at your location? **Vendor Response:**	
6.20	If proposing a solution not hosted by Santee Cooper, will Santee Cooper have the capability of accessing the data directly on the hosted systems? How will direct access be accomplished? **Vendor Response:**	
6.21	If proposing a solution not hosted by Santee Cooper, list all URLs that will be accessed when submitting or receiving data via this hosted solution. **Vendor Response:**	
Reporting		
6.22	Are any tools provided for creating reports? Please describe below. **Vendor Response:**	
6.23	If tools are provided, are there any graphical report building capabilities? **Vendor Response:**	
6.24	Can the user create new reports? **Vendor Response:**	
6.25	Can the user modify existing reports? **Vendor Response:**	
6.26	Describe any reports delivered with your proposed solution? **Vendor Response:**	
6.27	Describe any report export capabilities. **Vendor Response:**	
Solution Design		
6.28	Please include a detailed technical architecture of your proposed solution. **Vendor Response:**	
6.29	Are there any client-side hardware requirements? If so, please describe. **Vendor Response:**	
6.30	Are there any known incompatibilities with your proposed solution and existing customer infrastructures, ISP Providers, etc.? Please provide supporting detail. **Vendor Response:**	
6.31	Do you offer multiple solutions with regard to Santee Cooper's utilization of your resources? Can Santee Cooper pay only for the resources its customers consume, and can they require dedicated single tenant infrastructure, bandwidth and/or database? **Vendor Response:**	

6.32	Are there any technical requirements not specifically addressed by this proposal that need to be addressed or included? Please explain. **Vendor Response:**
	Software License Fees
6.33	What is the license type (perpetual/term/service/other)? **Vendor Response:**
6.34	What is the license model/metric (i.e., server, user, appliance, site, instance or core)? Attach license model and metric definitions and descriptions. **Vendor Response:**
6.35	What is the initial license fee if this is a perpetual license type? Provide both list and net pricing in **BOTH separate electronic *Pricing Worksheets*.** **Vendor Response:**
6.36	What is the period of each term offered and the pricing for those terms/periods, if this is a term or subscription-based model? Please provide both list and net pricing in **BOTH separate electronic *Pricing Worksheets*.** **Vendor Response:**
6.37	What is the renewal pricing, if term-based? Please provide pricing in **BOTH separate electronic *Pricing Worksheets*.** **Vendor Response:**
6.38	Provide itemization for any suite bundling to ensure that all separate SKUs, part numbers, product identifiers ("PIDs"), and pricing are identified. Please provide pricing in **BOTH separate electronic *Pricing Worksheets*.** **Vendor Response:**
6.39	Please include itemized published pricing for all regions and currencies. Identify if variances exist in list and net pricing by country, region or language. Provide pricing in **BOTH separate electronic *Pricing Worksheets*.** **Vendor Response:**
6.40	What is the delivery method? Is it hosted, on-premises or SaaS? **Vendor Response:**
6.41	Can software be used worldwide by, for and on behalf of parents, subsidiaries, affiliates and third-party clients at any enterprise location? **Vendor Response:**
6.42	Is virtualization of servers available and allowed? Provide pricing options for both physical and virtual options. Please provide pricing in **BOTH separate electronic *Pricing Worksheets*.** **Vendor Response:**
6.43	Is there a fee for hardware or environment changes (i.e., server upgrades, adding processors/cores, site/location changes)? Please attach and describe policies and provide pricing in **BOTH separate electronic *Pricing Worksheets*.** **Vendor Response:**

6.44	Is there a fee for development, quality assurance or test use? Provide fees, policies and usage allowances. Please provide pricing in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**
6.45	Are there any product dependencies with this software? If so, provide the list and net prices of any required dependent products. Please provide pricing in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**
End Client	
6.46	Is the proposed solution web-based? **Vendor Response:**
6.47	Which Internet browsers are supported? Which versions of those browsers? How large are the installations? **Vendor Response:**
6.48	Are any agents, receivers or plug-ins required for any supported browsers? If yes, how large are they, and how are they installed and updated? Please provide other details. **Vendor Response:**
6.49	What language has the proposed solution been created with? (i.e., C++, HTML, XML, etc.) **Vendor Response:**
6.50	What is the optimal recommended screen resolution for each device? **Vendor Response:**
6.51	Indicate all client requirements. Include: CPU, video, browser, memory, hard drive, operating system, required software, and preferred device. **Vendor Response:**
6.52	Indicate any other required installs that have not yet been identified in this section. (i.e., Java, SQL.Net, .Net, ODBC) **Vendor Response:**
Availability (Hosted Solutions Only)	
6.53	What are the availability options? List all options and price increases/decreases associated with each. Please provide pricing in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**
6.54	How is availability calculated, supported and guaranteed? **Vendor Response:**
6.55	What is your average current annual uptime for all customers? **Vendor Response:**
6.56	How often do you perform scheduled maintenance, and what is the typical duration of the outage? **Vendor Response:**
6.57	How quickly can our web site(s) be scaled up/down to meet demand? **Vendor Response:**

	Facilities Design (Hosted Solutions Only)
6.58	How many physical hosting facilities do you maintain inside the United States, and where are they located? **Vendor Response:**
6.59	Do you offer multiple data center locations (at least two) that are at least 250 miles apart and have the ability to host redundant infrastructure at multiple locations with real-time failover between sites? **Vendor Response:**
6.60	How often are backups made of our data? **Vendor Response:**
6.61	How long are backups retained? **Vendor Response:**
6.62	How often do you test your backup and recovery procedures? **Vendor Response:**
6.63	Who do you use for off-site storage, and how often do you send your media off-site? **Vendor Response:**
6.64	What is the recovery time to retrieve media? Are there additional fees associated with recovery or recovery times? Please provide pricing in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**
6.65	Please indicate if your off-site storage is physical media, data-by-wire or both. **Vendor Response:**
6.66	Please describe the procedures/policies for the identification, removal and destruction of defective backup media. **Vendor Response:**
	Facilities Design (Hosted Solutions Only)
6.67	Please describe your current ISP architecture including all redundant and high-available infrastructure (i.e., network load balancing, BGP, active-passive and active-active hardware, service drop locations, and total bandwidth per ISP, etc.). **Vendor Response:**
6.68	The Provider shall provide proposed bandwidth utilization estimates based on: • Expected bandwidth utilization per typical user (average and peak) in mbps • Expected bandwidth utilization for all proposed concurrent users (average and peak) in mbps **Vendor Response:**
6.69	Do you charge excess bandwidth fees? Please provide pricing in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**

6.70	Please describe the standard policies/procedures you have in place to notify customers of outages or degradations in external communications. **Vendor Response:**
6.71	Describe the architecture utilized to segregate network traffic within and across your data centers. Please attach a diagram with the current topographical design. **Vendor Response:**
6.72	Will Santee Cooper experience any degradation while load is directed to an alternate site? Please describe. **Vendor Response:**
6.73	How do you ensure there is no interruption during domain transfer? **Vendor Response:**
6.74	Does the application require an internet domain name provided by Santee Cooper? **Vendor Response:**
Disaster Recovery/Resiliency (Hosted Solutions Only)
6.75	Please describe your recovery/resiliency strategies following a disaster impacting the primary hosting facility. **Vendor Response:**
6.76	Please describe your procedures for recovering lost or damaged information. What is the maximum potential for data loss? **Vendor Response:**
6.77	How often do you test your disaster recovery plans? What level of involvement do customers have in this process? **Vendor Response:**
6.78	Do you have insurance to cover major catastrophes? Please elaborate. **Vendor Response:**
Other Questions (Hosted Solutions Only)
6.79	Does your organization have an Information Security Officer (or equivalent) and dedicated information security staff? If so, please provide positions by title and years of security experience. How many of your information security staff are certified information security professionals? **Vendor Response:**
6.80	Are there automatic procedures in place to address a data breach at any of your facilities? If so, explain your mitigation methodology. **Vendor Response:**
Maintenance/Subscription/Support Policies
6.81	What is the warranty period/maintenance start date? **Vendor Response:**
6.82	Please provide descriptions for all available subscription and support offerings, options and coverage levels (i.e., technical support eight to five versus technical support 24/seven). Please describe your pricing methodology for each of these options in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**

6.83	Are any of these maintenance, subscription and support offerings bundled in licenses? If so, provide the detail and separate the percentage of the license allocated to maintenance, support and subscription costs. Provide pricing in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**
6.84	Is your maintenance pricing based on a percentage of net license fees? **Vendor Response:**
6.85	Please identify SKUs, part numbers and PIDs for subscription and support if they exist. **Vendor Response:**
6.86	What is included in subscription, maintenance and support for all options? Please send descriptions including pricing for each option by providing pricing in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**
6.87	Can the subscription be separated from technical support? If yes, please provide pricing in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**
6.88	Please provide annual maintenance pricing for year one (if not included in the license fee for the first year) and for years two through three. Provide pricing in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**
6.89	Describe telephone support options, hours, problem resolutions, and escalation procedures? Please include after-hours and weekend services and include response times and escalation procedures (i.e., 24/7, unlimited vs. limited, etc.). **Vendor Response:**
6.90	How are updates/error fixes communicated and made available to clients? How often are they released? **Vendor Response:**
6.91	Please describe your problem resolution and escalation process. **Vendor Response:**
6.92	What is your response time for getting problems/questions resolved? **Vendor Response:**
6.93	What support will your help desk handle for us? **Vendor Response:**
6.94	What customer support tiers are available? Please describe each tier with hours including holidays. **Vendor Response:**
6.95	Please describe on-line technical support. Indicate number of accounts granted to Santee Cooper. **Vendor Response:**
6.96	Please describe all support documentation that is supplied with your solution. **Vendor Response:**

6.97	Please describe the product support organization and number of dedicated staff members. **Vendor Response:**
6.98	Upon installation completion, a dedicated technician and a consultant must be available at no additional cost for up to 30 days to address residual problems and questions. **Vendor Response:**
6.99	If Santee Cooper elects to decline the multi-year maintenance program, indicate if there will be any pricing increase caps. **Vendor Response:**
6.100	Is pay-per-incident an available support option? **Vendor Response:**
6.101	Would you be willing to have face-to-face periodic meetings to discuss Service Level Agreements (SLA's)? **Vendor Response:**
6.102	Is unplanned downtime calculated directly from availability? **Vendor Response:**
6.103	Please describe the procedures and schedules for planned downtime. **Vendor Response:**
Training	
6.104	What is the minimum recommended training required for basic users? **Vendor Response:**
6.105	Santee Cooper may request that the Supplier provide end-user training, training materials and technical training for support staff. Supplier is required to identify the content and duration for this type training, including where and when it should occur. Supplier is cautioned to not bundle the costs for this service with any other aspect of the pricing as required in **BOTH separate electronic *Pricing Worksheets***. All training should occur prior to cutover. **Vendor Response:**
6.106	User training will be customized to focus on additional skills required to learn the new solution to ensure continuing operations. A training syllabus and reference material will be developed jointly with Santee Cooper and tailored to Santee Cooper's feature set, culture, and business processes. **Vendor Response:**
6.107	In addition, the selected Supplier must provide training for Santee Cooper staff members who will be responsible for subsequent user training of Santee Cooper staff. This "train the trainer" approach must be accounted for in Supplier pricing. Please provide typical pricing structure in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**
6.108	The bidder is requested to state the availability of end user Computer Based Training ("CBT") and any software/licensing costs as an option. Please provide pricing in **BOTH separate electronic *Pricing Worksheets.*** **Vendor Response:**

6.109	The selected Supplier will also provide detailed training for Santee Cooper staff members in two sessions that will be responsible for system administration of the new system. Please provide pricing in **BOTH separate electronic *Pricing Worksheets***. **Vendor Response:**
6.110	Santee Cooper requires that this training occur prior to system cutover. **Vendor Response:**
6.111	Supplier shall participate in a review process after each site implementation and shall modify technical implementation plans and other project documentation to reflect lessons learned and emerging best practices. **Vendor Response:**
Section 7	**Software Security Requirements**
7.1	What other systems or processes are dependent on this system? **Vendor Response:**
Data Flow	
7.2	Where and how does data enter the system? **Vendor Response:**
7.3	Where and how does data leave the system? **Vendor Response:**
7.4	What are the interfaces between system components? **Vendor Response:**
7.5	What protocols are used for user access? **Vendor Response:**
7.6	What protocols are used for administrative access? **Vendor Response:**
Access Control	
7.7	Who are the end-users/administrators of the system? **Vendor Response:**
7.8	Is access limited to only those individuals whose job requires such access? **Vendor Response:**
7.9	Does the system have role-based access control? If so, how are the roles administered? **Vendor Response:**
7.10	Are there uniquely identifiable accounts for all users requiring access? **Vendor Response:**
Authentication and Authorization	
7.11	What method is used to authenticate end-users to the system? **Vendor Response:**
7.12	Do end-users have access to components other than the application front-end? **Vendor Response:**

7.13	Is any part of the system open to the public or to an anonymous class of users? **Vendor Response:**
7.14	Where passwords are used, are there minimum complexity requirements? How are they enforced? **Vendor Response:**
7.15	How do developers gain access to the system components? **Vendor Response:**
7.16	How do system administrators gain access to the system components? **Vendor Response:**
	Remote Access
7.17	What technology is used for remote access? **Vendor Response:**
7.18	What type and level of encryption does it employ? **Vendor Response:**
7.19	How is the remote user authenticated? **Vendor Response:**
	Network Control Devices
7.20	What technology is in place to protect network segments from hostile traffic (i.e., firewalls, router/switch ACLs, host-based IP filters, etc.)? **Vendor Response:**
	Application and Database Configuration
7.21	Are default accounts and passwords disabled or removed from the system components? **Vendor Response:**
7.22	Is a standard procedure followed for hardening web, application and database components? **Vendor Response:**
7.23	Is a standard procedure followed for hardening host machines? Are all unnecessary and insecure services and protocols disabled? **Vendor Response:**
	Operating Systems
7.24	Does your system require currently unsupported or end-of-life operating systems? If yes, please explain mitigating security controls for the end-of-life operating systems. **Vendor Response:**
7.25	Does your system or solution require appliances with embedded operating systems? Please identify operating systems. **Vendor Response:**
7.26	Are the embedded operating systems currently supported commercially available or open source platforms? If no, please explain mitigating security controls for the unsupported operating systems. **Vendor Response:**

Patching and Anti-virus	
7.27	What method is used to keep operating system and application patch levels current? **Vendor Response:**
7.28	Define the roles and responsibilities for application patching. **Vendor Response:**
7.29	What method is used to validate and test operating system and application patches before deployment? **Vendor Response:**
7.30	Are initial and periodic tests performed to validate that network devices, host operating systems, applications, and patches are up-to-date, properly configured and performing as expected? **Vendor Response:**
Applications	
7.31	Are application proxies used to protect any system components? What kind? **Vendor Response:**
7.32	Is input data validated against the required formats? **Vendor Response:**
7.33	Is the format of user-supplied data restricted on input? **Vendor Response:**
7.34	Is any user-supplied data passed directly into SQL code? **Vendor Response:**
7.35	Is any user-supplied data passed directly into HTML code? **Vendor Response:**
Data Integrity and Encryption	
7.36	Is the data or user passwords encrypted while at rest? **Vendor Response:**
7.37	Is the data encrypted while transmitted over an untrusted network? **Vendor Response:**
7.38	What type of encryption is used? **Vendor Response:**
Monitoring and Logging	
7.39	What logs are kept? **Vendor Response:**
7.40	Can logs link actions to individual users? **Vendor Response:**
7.41	Are successful/unsuccessful accesses logged? **Vendor Response:**
7.42	Are UID, event type and timestamp logged? **Vendor Response:**
7.43	Are logs kept in a central location, separate from the system components? **Vendor Response:**
7.44	How is access to the logs controlled? **Vendor Response:**

7.45	Are logs manually or automatically reviewed for anomalies? If so, how? **Vendor Response:**
For Hosted Solutions Only	
7.46	How is security enforced by your staff on multi-tenant databases? Please describe. **Vendor Response:**
7.47	How is security enforced by your staff on multi-tenant hardware? Please describe. **Vendor Response:**
7.48	All host vendors must reside within the continental United States. The staff for each of the proposed data centers must also reside within the continental United States and be able to provide continuous 24/7/365 service. Please respond to your ability to fulfill this requirement. **Vendor Response:**
7.49	If a data breach occurs at one of your facilities, how quickly will Santee Cooper be notified? **Vendor Response:**
7.50	Please describe your incident detection, notification, response, and remediation procedures for the services you are proposing. **Vendor Response:**
7.51	Do you undergo annual independent, third-party security assessments (i.e., SOC II, PCI DSS, ISO 27001, HIPAA, etc.)? Please describe your assessment policy. **Vendor Response:**
7.52	Will you be outsourcing any portion of this hosted service to another vendor? (i.e., platform, infrastructure, etc.). If so, please identify and provide external security assessment report for this vendor. **Vendor Response:**
7.53	Please describe your products and procedure(s) for performing vulnerability scans of the networks and servers, which will support this requirement (include remediation processes). **Vendor Response:**
7.54	Please describe the physical security controls for each of your data centers. **Vendor Response:**
7.55	Please indicate the methodology in which you audit your physical security. **Vendor Response:**

Santee Cooper requires the hosting vendor to submit a copy of the most recent Service Organization Controls ("SOC") Type 2 Report, which addresses all facilities and services used to host or process Santee Cooper applications and data. The SOC 2 Report must address all Trust Principles, Areas, Criteria, and Controls established by the American Institute of Certified Public Accountants ("AICPA") which are relevant to the hosting services provided. These include:

- Security – The hosted system is protected against all unauthorized access

- Processing Integrity – Hosted system processing requires accuracy, completeness, and must meet established schedules

- Confidentiality – The hosted data is designated "Restricted" by Santee Cooper and must be encrypted

- Availability – System or data availability is an important aspect of this requirement

- Privacy – Personal information of Santee Cooper employees or its customers is not collected and/or maintained on vendor systems

- Secret – Trade secret information is designated as such and data is encrypted in transit and at rest

Santee Cooper will consider alternate certifications where appropriate. Examples include: International Standards Organization Information Security Management System ("ISO 27001"), Payment Card Industry Data Security Standards ("PCI DSS") and the Health Insurance Portability and Accountability Act ("HIPAA").

6.6 Proposal Section 6: Costs

1. This section shall contain all cost information. Pricing should be quoted based on all services rendered. It is acknowledged that the vendor(s) may be required to make some assumptions about Santee Cooper's environment or about specific requirements. Santee Cooper's assumptions regarding costs are as follows:

   - Any expenses incurred by the vendor(s) prior to award are the vendor's responsibility
   - Invoices must be sent monthly and must contain the program costs incurred during the prior month
   - Any work schedule or travel intentions/limitation restrictions must be stated
   - Santee Cooper reserves the right to review any expenses and reject any unreasonable expenses
   - Turn-key bidders are required to supply costs for each section of the RFP and other bidders are only required to supply costs for the areas they bid on

2. <u>Any oversight or unintentional omission of a component, artifact, resource, or other consideration by Santee Cooper, that was not specifically identified in this RFP but is critical to the success of this solution's implementation, must be disclosed by the vendor(s), addressed, and included in this RFP. Failure to fully disclose and</u>

<u>include all requirements for the successful implementation of the solution described by this RFP may result in vendor disqualification.</u>

3. Costs should be organized and detailed in such a way as to enable Santee Cooper to effectively analyze each cost component. A summary of items to include are as follows:
   - Costs for all requirements
   - Other costs - please specify any additional costs not otherwise included above
   - Cancellation fees
   - Acceptance criteria
   - Pricing assumptions
   - Payment and financial terms

4. Please complete the charts in **BOTH separate electronic *Pricing Worksheets***, which is in conjunction with this document.

5. Santee Cooper is depending upon the expertise of the vendor(s); and therefore, the vendor(s) is responsible for providing a COMPLETE list, with pricing, of ALL additional costs required to successfully complete requested services.

7.   Basis of Bid Award

Santee Cooper has a project team who will evaluate and rank submitted proposals. No information will be provided as to the status of proposals while they are being evaluated. The evaluation criteria for costs will not be the sole determinant of the award.

The evaluation criteria for this RFP are as follows:

- Requirements
- Experience
- References
- Costs
- Program examples
- Marketing Examples – for implementation vendor/marketing consultant only
- Demonstration – if needed. Santee Cooper reserves the right to only allow qualifying candidates to participate in demonstrations, which will potentially occur between August 5, 2020 and September 28, 2020.

The costs will be evaluated at 40% and all other criteria above will be evaluated at 60%.

1. For a proposal to be considered responsive, it must:
   - Be preceded by a Letter of Intent stating vendor plans to send a proposal
   - Be received by the due date and time specified herein

- Be completed in the required format as indicated in the *Proposal Instructions* section of this RFP
- Be completed with the required original ink signature on the original priced copy
- Supply all reference information and documentation in full as outlined in this RFP
- Include completed required documents

2. A proposal will be considered non-responsive for failure to comply with any of the requirements in this RFP. In addition, the vendor may cause the proposal to be considered non-responsive for any of the following reasons:
    If the vendor:
    - Lacks the resources and ability to fulfill the RFP requirements as outlined in this document
    - Shows evidence of real and/or apparent conflict of interest
    - Is experiencing financial problems which could impact its performance and ability to provide ongoing support

3. Santee Cooper may exclude from further consideration any proposal that is non-responsive. If no responsive offers or only one responsive offer is received, Santee Cooper may negotiate a non-competitive contract or cancel the proposed procurement. If there are several responsive offers, Santee Cooper reserves the right to negotiate with one or more vendors to align bids and resolve bidder exceptions to the RFP requirements. Santee Cooper will select the best offer that meets its requirements. Santee Cooper is a public authority with an obligation to the citizens of South Carolina to exercise good judgment in use of its monies.

4. **Santee Cooper reserves the right to purchase all, part or none of the proposed solution.** Santee Cooper has the right to evaluate any merger or acquisition and has the option to withdraw awarded bid, if deemed necessary.

5. Santee Cooper may elect to issue a contract for either a one-year term or three-year term based on bid evaluations. In addition to the initial contract, Santee Cooper has the option to extend the contract for additional terms not to exceed a five-year period. Santee Cooper has the right to extend the contract with the vendor(s) to include additional DR programs and customer sectors during the initial dates on the contract.

6. Santee Cooper and the vendor both have the right to terminate the contract within a thirty (30) day notification.

7. Santee Cooper has the right to request demonstrations of the processes, technologies, portals, and hardware/software before awarding the bid.

8. In addition, the following financial requirements must be met by the vendor:

- No service fees or additional costs will be invoiced to Santee Cooper by the selected vendor during the term of this agreement (except as described in this RFP or mutually agreed upon in writing)
- There will be no "minimum service" or "special service" charges or surcharges
- There will be no re-work fees for non-performance or other errors on the part of the selected vendor

8.   Conflict of Interest

The vendor(s) shall advise Santee Cooper in writing with this proposal or prior to the effective date of any Contract, of any relationship with third parties, which present a conflict of interest with the rendering of the services, or which could prevent vendor(s) from carrying out the Terms of this Contract, or which could present a significant opportunity for the disclosure of confidential information. The vendor(s) shall not have an ownership interest in, or receive benefit, profit, or payment from any company, firm, or individual which has, or is seeking to have, business dealings with Santee Cooper.

9. Appendix A – Santee Cooper Insurance Requirements

Santee Cooper.

CONTRACTOR INSURANCE REQUIREMENTS

INDEMNIFICATION AND INSURANCE

The CONTRACTOR shall indemnify and hold South Carolina Public Service Authority (hereinafter called "Santee Cooper"), joint ventures, agents, and employees harmless from and against all liability claims and demands on account of damages to persons or property, including death to employees of the CONTRACTOR or his suppliers or subcontractors, arising out of or connected with the performance of this Contract regardless of whether such injury, loss or damage shall be caused by the negligence of the CONTRACTOR, his subcontractors, or suppliers, joint ventures, agents, employees, or otherwise. The CONTRACTOR shall at his own expense, defend any and all actions based herein and pay all attorney's fees, costs and expenses arising therefrom.

Without limiting any of the other obligations or liabilities of the CONTRACTOR, the CONTRACTOR shall provide and maintain, until the WORK is completed and accepted by the Santee Cooper, minimum insurance coverage as follows (aircraft insurance is required only when the contract requires the use of aircraft or when the contractor elects to use an aircraft in conjunction with the contract):

a. Aircraft Liability – Required for this Contract:

☐ Yes ☐ No

(1) Combined single limit, bodily injury/property damage – $2,000,000

(2) Passenger liability of at least $100,000 per seat

If to be used more than thirty (30) consecutive days – $10,000,000 bodily injury/property damage

b. Workers' Compensation

(1) Statutory – Subject to the laws of the State of South Carolina

(2) Employer's Liability –

    a. Bodily injury by accident – $500,000 each accident

    b. Bodily injury by disease – $500,000 each employee

c. Commercial General Liability – Occurrence Form

Minimum $1,000,000 limit – Personal injury/property damage, unless checked below:

☐ $2,000,000 minimum limits required

If commercial general liability coverage is provided:

Coverage A should include premises, operations, products and completed operations, independent contractors, contractual liability covering this agreement or contract, fire legal liability and broad form property damage coverages.

Coverage B should include personal injury and advertising injury.

Coverage C should include medical payments.

d. Comprehensive Automobile Liability

Minimum limit of $500,000 – bodily injury and property damage, unless checked below:

☐ $1,000,000 minimum limits required

Automobile Liability coverage is to include bodily injury and property damage arising out of operation, maintenance or use of any auto, including owned, non-owned and hired automobiles and employee non-ownership use.

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e.   Professional Liability (Errors and Omissions) – Required for this Contract:

☐ Yes   ☐ No

(1) $1,000,000 each claim

f.   Builder's Risk – Required for this Contract:

☐ Yes   ☐ No

The CONTRACTOR must provide property damage insurance on all risk basis including flood and earthquake for an amount not less than the replacement value of the building(s) or any part thereof. The CONTRACTOR will be responsible for any damage which may fall under the deductible of the property damage insurance policy carried by the CONTRACTOR. Any loss or damage to the CONTRACTORS' tools or equipment or of their subcontractors is the responsibility of the CONTRACTOR.

CERTIFICATE OF INSURANCE

Certificates of such insurance are to be provided to Santee Cooper before commencement of any work under this contract. Certificates of Insurance shall provide that Santee Cooper shall be notified at least 30 days in advance of cancellation, non-renewal or adverse change. New Certificates of Insurance are to be provided to Santee Cooper at least 15 days prior to coverage renewals. If required by Santee Cooper, the other party shall furnish copies of the other party's insurance policies, forms and endorsements.

Receipt of Certificates or other documentation of insurance or policies or copies of policies by Santee Cooper or any of its representatives which indicate less coverage than required does not constitute a waiver of the other party's obligation to meet the insurance requirements herein. All insurance contracts shall be countersigned by a resident agent or attorney in fact, and complete address and telephone number shall be provided with certificates.

As respects to General, Automobile, and Aircraft liability insurance, Santee Cooper shall be an additional insured on the policy. The Certificate of Insurance will indicate Santee Cooper as an additional insured.

As respects aircraft liability insurance, the Certificate will show specific activity or activities which the CONTRACTOR will be performing. Certificate will also show as a separate statement that CONTRACTOR'S aircraft liability insurance is the primary insurance as respects any occurrence.

ADDITIONAL REQUIREMENTS

The CONTRACTOR shall not allow any subcontractor to commence work on his subcontract until the CONTRACTOR has determined that the subcontractor has met the minimum insurance requirements specified in these Contractor Insurance Requirements.

Insurance required of the contractor or any subcontractor shall be considered primary, and insurance of Santee Cooper shall be considered excess, as may be applicable to claims which arise out of the hold harmless, insurance, additional insurance and Certificates of Insurance provisions of this agreement or contract.

Note that Commercial General Liability is to be based on the Occurrence Form and not claims made, unless otherwise approved in writing by Santee Cooper. Further, CONTRACTOR's General Liability insurance policy shall contain no condition or endorsement that prohibits Santee Cooper as an additional insured from making claim under said policy against CONTRACTOR as named insured.

All coverage required herein shall be placed with carriers that are acceptable to Santee Cooper, and coverage should be provided by insurance carriers which are licensed (also referred to as admitted) by the State of South Carolina or by insurance carriers which are acceptable as surplus line carriers (also referred to as acceptable non-admitted carriers) by the State of South Carolina.

Precautions shall be exercised at all times by the CONTRACTOR for the protection of all persons, including employees and property. The contractor shall make special effort to detect hazardous conditions and shall take prompt action where loss control/safety measures should reasonably be expected.

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