

Request for Proposals

for

City of Sioux Falls

**Furnishing a Power Transformer with Assembly and
Testing**

April 1, 2022

City of Sioux Falls, South Dakota

Proposal Request No. 22-0091

SECTION 1 INTRODUCTION AND INSTRUCTIONS

1.01 Purpose of the RFP

This Request for Proposal (RFP) is issued by the City of Sioux Falls (hereinafter referred to as the “City”). The purpose of this RFP is to establish a contract with a qualified firm to supply, assemble, complete testing and field services for furnishing a power transformer.

1.02 Contact Person, Telephone, Fax Number, and Email

The point of contact (POC) for this RFP is listed below. Unauthorized contact regarding the RFP with other City employees may result in the vendor being disqualified.

POC: David Dekker, City of Sioux Falls Finance department

Phone: 605-367-8833

Email: DDekker@siouxfalls.org

1.03 RFP Schedule of Events

This schedule of events represents the City’s best estimate of the schedule that will be followed for this RFP. If a component of this schedule such as the deadline for receipt of proposals is delayed, the rest of the schedule will be shifted accordingly.

The approximate RFP schedule is as follows:

- RFP issued: April 1, 2022
- Questions submitted by: April 15, 2022, at 5:00 pm, local time
- Proposals due: April 28, 2022, at 2:00 pm, local time
- Contract award: May 5, 2022

1.04 Return Mailing Address and Deadline for Receipt of Proposals

Firms must submit one (1) original hard copy (marked “Original”) and two (2) hard copies of the proposal as well as one (1) digital version on a USB thumb drive in a sealed envelope or package.

Envelopes or packages containing proposals must be clearly addressed as described below to ensure proper delivery and to avoid being opened by the City before the deadline for receipt. Envelopes or packages must be addressed as follows:

City of Sioux Falls
Customer Service Center, Ground Floor, City Hall
Attention: David Dekker
Furnishing a Power Transformer with Assembly and Testing RFP No. **22-0091**
224 West Ninth Street
P.O. Box 7402
Sioux Falls, SD 57117-7402

Proposals must be received by the Purchasing Office at the location specified no later than the time listed in Section 1.03. Proposals will not be publicly read at the opening.

Proposals shall not be delivered orally, by facsimile transmission, by other telecommunication, or electronic means.

Firms assume the risk of the method of dispatch chosen. The City assumes no responsibility for delays caused by any delivery service. Postmarking by the due date will not substitute for actual proposal receipt by the City. A Firm's failure to submit its proposal prior to the deadline will cause the proposal to be rejected. Late proposals or amendments will not be opened or accepted for evaluation.

1.05 Questions and Addenda

Questions regarding this RFP shall be submitted in writing via email to the POC listed above. Answers to questions will be posted to the City's website. The deadline for questions is listed in Section 1.03.

If deemed necessary, addenda to the RFP will be issued and will be posted on the City's website. No addenda will be issued after April 20, 2022 at 5pm local time.

Responding Firms are prohibited from communicating in any other manner about this project with any other City employee from the date of issuance of this proposal until the final selection, unless otherwise directed by the POC. Other means of communications or contact may disqualify the submitting Firm.

**SECTION 2
SCOPE OF WORK****2.01 SCOPE:**

- A. Work under this Section includes supplying, assembling, testing and completing field services for furnishing a power transformer as herein specified.
- B. Work by Others:
 - 1. Preparation and marking of the substation pad for proper location of the transformer on the pad.
 - 2. External high voltage, medium voltage, and low voltage terminal connections.
 - 3. Substation bus modifications, as necessary.
 - 4. Switching, isolation, and grounding of substation equipment.

2.02 PAYMENT:

- A. Payment shall be at the Contract unit prices as shown on the Proposal Form.
- B. Purchase Price Adjustment:
 - 1. The total purchase price of the power transformer shall be adjusted to reflect the difference between actual transformer test losses and the guaranteed transformer losses submitted with the Proposal.
 - 2. The adjustments shall be made in accordance with the per KW "cost of losses" submitted.
 - 3. No adjustment in purchase price shall be made if either of the test losses is less than the guaranteed losses.
 - 4. The load and no-load losses will be evaluated independent of each other.
 - 5. If one of the loss factors meets or is below the guaranteed losses the resultant evaluation assessment will be zero and no credit will be added to the other loss evaluation assessment.
 - 6. Reported losses shall be tested at the ONAN base rating of the transformer. Winding losses shall be corrected to 85° C; no-load losses shall be reported at 20° C.

C. Payment Terms:

1. Payment to the Supplier for the equipment shall be made on the basis of ninety percent (90%) of the base proposal price for the equipment, within 30 days of receipt of the equipment in acceptable condition and associated invoice.
2. Payment shall be made for the remaining 10 percent (10%) of the contract price, less calculated penalties, within 30 days after final completion, field testing, and receipt of test reports, final drawings, certification by the Engineer, and associated invoice.

2.03 SCHEDULE:

- A. The Owner will award one (1) contract for the Power Transformer as deemed in the best interest of the Owner. The following dates represent the desired schedule requirements for this Contract:

April 28, 2022	Proposal Opening
May 5, 2022*	Council Awards Contract
May 12, 2022	Supplier furnishes bond(s) and signed Contract(s)
May 17, 2022	Contract executed by Owner
May 19, 2023	Preferred Transformer Delivery
May 26, 2023**	Preferred Field Assembly and Testing Complete

Acceptable Alternative Delivery and Installation

October 20, 2023	Delivery of Power Transformer
October 27, 2023**	Field assembly and testing complete

* Date(s) subject to change.

** Liquidated damages apply to this date. See part 1.04.A.

- B. If preferred or alternative delivery dates cannot be met, the Supplier shall state a best available guaranteed delivery date with their Proposal and will be considered in evaluation of Proposals. Preference in evaluation will be given to the earliest delivery and installation date available.
- C. Delivery and installation scheduling must be coordinated with and approved by the Owner. Delivery and installation may not be acceptable during the months of June through September, without approval by the Owner.

2.04 LIQUIDATED DAMAGES:

A. Guaranteed Delivery and Installation Date:

1. The Firm shall provide in his Proposal a guaranteed delivery and installation date. The Owner reserves the right to deduct from the contract price \$1,000 per day for each calendar day after the contracted dates that the transformer is not delivered, assembled and tested at the site.

- ### B. The Supplier shall provide monthly progress reports to the Owner and Engineer during the manufacture of the transformer. Supplier shall also provide a project schedule, with monthly updates.

2.05 PRODUCTS:

A. SERVICE CONDITIONS AND STANDARDS:

1. The transformer shall be a newly manufactured unit and comply with and meet or exceed all applicable standards of ANSI and NEMA. The latest revision of these standards shall apply and are not limited to the following specific standards.
2. The transformer shall be designed and built to meet the most recent requirements outlined in IEEE C57.12.00, IEEE C57.12.90.
3. The transformer covered by this specification shall meet the Short-Circuit Qualification Requirements given in ANSI Standard C57.12.90 entitled "Distribution and Power Transformer Short-Circuit Test Code", prepared by IEEE Transformer Committee as an amplification of ANSI Standard C57.12.00, Section 7, entitled "Short-Circuit Characteristics". **The Firm shall submit, with the Proposal, certified short-circuit test data for a transformer of the same manufacturer, type and style, with similar size and voltage ratings.**
4. The transformer oil supplied with the transformer covered in this specification shall comply with the most recent version of ASTM D3487, "Mineral Oil Used in Electrical Apparatus".
5. The design of the equipment must conform to current OSHA and NESC regulations and requirements.
6. In the event of a conflict between industry standards and this specification, the manufacturer shall notify the Engineer and secure clarification resolving the conflict before proceeding with the work.

7. The equipment shall be designed for satisfactory service for the ice and wind loads of NESC heavy loading district.
8. The equipment shall be suitable for outdoor service at an elevation of not more than 3,300 feet above sea level in a climate with ambient temperatures ranging from -40° C to +40° C.
9. The equipment shall be designed to withstand the seismic loads as defined and calculated in IEEE 693 “IEEE Recommended Practice for Seismic Design of Substations (current revision)” at the final transformer installation location. The equipment shall continue to perform its intended function during and after such seismic stresses.
10. All components shall be readily available in the United States and identifiable by manufacturer’s name and part number.

B. TRANSFORMER RATINGS:

1. The general purpose shall be for use as an outdoor, three phase, 60 Hz, oil immersed transformer.

(SEE NEXT PAGE FOR RATINGS REQUIREMENTS)

2. The transformer shall be a dual voltage high-side 120x67 kV Delta to 13.8/7.967 kV GNDY with the following ratings:

	<u>BASE PROPOSAL</u>		<u>ALTERNATE PROPOSAL</u>	
	High Voltage 120x67 kV <u>H-Winding</u>	Low Voltage 13.8 kV <u>X-Winding</u>	High Voltage 120x67 kV <u>H-Winding</u>	Low Voltage 13.8 kV <u>X-Winding</u>
Base Impulse Level (BIL)	550 kV	110 kV	550 kV	110 kV
Winding MVA @ 55°C ONAN	12 MVA	12 MVA	15 MVA	15 MVA
Winding MVA @ 55°C ONAF (1 st Stage)	16 MVA	16 MVA	20 MVA	20 MVA
Winding MVA @ 55°C ONAF (2 nd Stage)	20 MVA	20 MVA	25 MVA	25 MVA
Winding MVA @ 65°C ONAN	13.4 MVA	13.4 MVA	16.8 MVA	16.8 MVA
Winding MVA @ 65°C ONAF (1 st Stage)	17.9 MVA	17.9 MVA	22.4 MVA	22.4 MVA
Winding MVA @ 65°C ONAF (2 nd Stage)	22.4 MVA	22.4 MVA	28 MVA	28 MVA
Winding Connections	Delta	Wye	Delta	Wye
System Neutral	-	Grounded	-	Grounded
BIL – XO Bushing	-	110 kV	-	110 kV

3. The high voltage winding shall be equipped with full capacity de-energized high voltage taps of \pm two (2) 2-1/2 percent above and below the 120 kV voltage rating. The de-energized high voltage taps shall be usable at the 67 kV rating as well, providing for \pm two (2) 4-1/2 percent taps above and below the 67 kV rating.
4. The dual rated transformer shall be factory shipped and connected at 67 kV.

- a. The transformer shall be equipped with a no-load, externally mounted switch for the purpose of changing the high side from 67 kV delta to 120 kV delta in the future. The high-voltage connection shall be switched without opening the main tank, draining oil, or exposing the inside of the transformer.

OR

There shall be a high-voltage terminal board for field changing of the high side voltage between 67 kV and 120 kV. The manufacturer shall place the terminal board in an accessible location.

5. The transformer shall be designed for operation within standard excitation limits. Noise level shall not exceed 3 DB below NEMA standard average audio levels at rated full nameplate rating and any operating position with all fans on.
6. Standard impedance shall be furnished according to ANSI standard C57.12.10.
7. No current path components, ancillary equipment or other design aspects shall limit use of full peak-load capabilities as defined in these ANSI loading limits.

C. CONTROL POWER:

1. Control power for the rapid rise relay shall be ungrounded 125 VDC. All equipment shall be capable of being operated at 139.9 VDC when the station battery is being equalize charged.

D. AUXILIARY POWER:

1. All auxiliary equipment shall be single phase and shall be supplied from a 120/240 VAC single phase, 60 HZ source.

E. LIGHTNING PROTECTION AND GROUNDING:

1. Lightning arresters as specified below shall be supplied and installed on each phase and mounted to the transformer tank. Arresters shall be furnished for both the high and low side. Arresters shall be constructed of polymer material and light gray in color. Arrester ratings shall be as follows:
 - a. High-voltage side: Three (3) 60 kV metal oxide varistor (MOV), with 48 kV MCOV rating, station class arresters.

- b. Low-voltage side: Three (3) 12 kV metal oxide varistor (MOV), with 10.2 kV MCOV rating, station class arresters.
 - c. Furnish Ohio Brass or ABB, no equal.
2. A copper ground bar shall be provided for connecting the lightning arresters to the ground grid. The bar shall be mounted to the tank and routed from the bottom of the tank to the lightning arresters and back to the bottom of the tank in a looped configuration. The copper bar shall have holes for connecting a 2-hole NEMA pad at each end and at each lightning arrester. The copper ground bar shall be on both the high and low sides. The system neutral shall be connected to the low side ground bar with 4/0, 19 strand class B copper cable (bare). The copper ground bar for each side shall terminate at a grounding pad. The arresters shall be tied to the copper ground bar with 4/0, 19 strand class B copper cable (bare).
 3. Grounding pads shall be located diagonally opposite each other on the transformer. Each pad should be suitable for a NEMA 2-hole grounding terminal. The only additional ground connections required in the field shall be the installation of ground connectors to the substation ground grid.

F. COOLING EQUIPMENT:

1. Cooling equipment controls, cable and mounting accessories shall be provided, ready for connection of the power supply.
2. The transformer shall be equipped with fans and radiators.
3. The fan power supply shall be 240 volts AC single phase.
4. All conduit, wiring, and automatic controls shall be pre-wired at the factory and controls located in the transformer control box.
5. The controls shall include a 240-volt power supply breaker, control contactor, "manual"- "off"- "automatic" switch, and a loss of voltage relay with one set of contacts open when the relay is energized for use in relaying "loss of voltage" signal to a transformer annunciator.
6. Cooling selector control switches shall be Electroschwitch Series 24, no equal.
7. Sensing for the fan control shall be from the hot spot winding temperature indicator.

8. Forced air cooling fans shall have plug-in type connectors. Furnish Krenz Vent, California Turbo, or Waukesha Electric, no equal.
9. Removable radiators shall have oil tight valves on the tank at the inlet and outlet connections of each radiator. Inlet and outlet flanges shall be sealed with steel plates for shipment. Removal of radiator shall not require draining of oil from any device other than the equipment being removed. Radiators shall be fully assembled and attached to the tank during testing at the factory, to assure proper alignment prior to shipping. All radiators shall be interchangeable and hot dipped galvanized. Each radiator section shall have a drain valve (with end-plug) and a top fill plug.

G. CURRENT TRANSFORMERS:

1. Current transformers shall be factory installed.
2. The current transformers shall be multi-ratio with five primary taps and relaying accuracy class of C800, with fully distributed windings where the turns are equally spaced around the circumference of the core and a thermal rating of 2.0. Available ratios shall be in accordance with ANSI/IEEE C57.13.
3. Furnish CTs as follows:

<u>Bushings</u>	<u>CT Position</u>	<u>Ratio</u>
H1,H2,H3	1	1200/5 MR
	2	1200/5 MR
X1, X2, X3	1	1200/5 MR
X0	1	1200/5 MR

- A. Separate CTs shall be provided for the winding hot spot temperature indication circuit and the LTC line drop compensator circuit.
 - a. Acceptable CT manufacturers are ABB, Associated Engineering, General Electric, or Meramec.

H. BUSHINGS:

1. Bushings shall be in accordance with ANSI/IEEE Standard C57.19.01-2000.
2. Bushings shall be porcelain ANSI No. 70 light gray color. Only ABB, PCORE (formerly LAPP), and WARCO bushings are acceptable on this transformer.

3. High side bushings shall be porcelain, cover mounted, and installed in Segment 3. A NEMA 4-hole aluminum terminal pad shall be provided for each of the bushings.
4. Low side bushings and the neutral (Xo) bushing shall be side tank mounted inside the air terminal chamber. Terminals shall be standard NEMA 8 bolt, 1-3/4 inch spacing. Bushings shall be suitable for copper-cable connections.
5. Bushing general requirements and testing shall conform to ANSI/IEEE Standard C57.19.100. Bushings shall have a C1 power factor <0.5% and a C2 power factor <1.0% at 20°C. C1 and C2 power factor values and capacitance shall be indicated on the bushing nameplate. A certified test report shall be supplied for each bushing.
6. The transformer shall be tested with the bushings that will be shipped with the unit. Test bushings are not allowed.
7. Busbar extensions shall be provided from the low-side bushings in the ATC to serve as a termination point for the external power cables to be installed by Others. These extensions shall be configured to provide ample clearance between the arresters and the cable shield grounds on the power cable terminators being installed by Others. The bus shall be sized for 125% of full transformer capacity, and shall be fixed with the necessary support insulators, as required. Terminals shall be standard NEMA 4-hole, with 1-3/4 inch spacing for external power cable terminations. The arresters shall be factory connected to the low-side bushings or busbar with 4/0, 19 strand class B copper cable (bare) and 2-hole NEMA pads.
8. Bushing bus-bar supports shall be furnished. Bus-bar supports shall attach to the bus-bar in an independent hole other than the cable connection holes. Bus-bar support mounting shall be constructed of insulating material with adjustable means to increase or decrease tension. Bus-bar supports shall be attached to the air terminal ceiling and any cross member supports required shall be mounted off the air terminal chamber walls. Bus-bar support components shall be designed to be easily removed and reassembled for assembly of cable to the bus-bar if needed. Other support means may be considered with approval by the Engineer.

I. TEMPERATURE SENSING AND RELAY EQUIPMENT:

1. The manufacturer shall provide a transformer monitor to be used for temperature monitoring, automatic cooling control, and alarm collection. Unit shall include fiber-optic Ethernet option, and 125 VDC control power. Unit will require RTD's for top oil temperature, winding temperature, and ambient temperature.

2. The transformer alarms shall be wired to the transformer monitor. This shall include, but not be limited to:

Status:

1. Stage 1 Cooling Fans On
2. Stage 2 Cooling Fans On

Alarms:

1. Loss of Cooling Power-Stage 1
2. Loss of Cooling Power-Stage 2
3. Loss of AC-LTC
4. Loss of DC
5. Mechanical Pressure Relief-Main
6. Mechanical Pressure Relief-LTC
7. Sudden Pressure
8. Low Oil-Main Tank
9. Low Oil-LTC
10. Oil temperature alarm-Main Tank
11. Oil temperature alarm-LTC
12. LV Winding Temperature

3. Unit also shall have analog inputs for the tap position indication. Seller shall recommend settings for control and unit shall be completely programmed and implemented at the factory
4. Provide SEL 2414, catalog number 241421ADA9XDA6X0830, Key Code 1462, no equal.
5. A standard magnetic type liquid level gauge, with 6-inch diameter dial shall be provided. Gauge face to be graduated to indicate critical low, low, 25° C, and high oil levels. Gauge shall have three sets of SPDT contacts, one for critical low oil level for tripping, one for low oil level alarming, and one for high oil level alarming. All alarm leads shall be connected with a quick disconnect connector routed through conduit and landed on terminal blocks located in the transformer control cabinet. Provide Qualitrol or Messko, no equal.
6. Liquid temperature indicator shall be furnished for the main tank and LTC tank. Indicator shall be Qualitrol or Messko with 6-inch diameter dial. Gauge shall have two sets of SPDT contacts, one for alarming and one for tripping. Gauge shall have a manual resettable drag hand. Switch leads shall be connected with a quick disconnect connector and routed through conduit to the transformer control cabinet. Manufacturer shall preset alarm and trip set points

7. Winding hot spot temperature indicator shall be furnished. Indicator shall be Qualitrol or Messko with 6-inch diameter dial. Gauge shall have two sets of SPDT contacts, one for alarming and one for tripping. Gauge shall have a manual resettable drag hand. Switch leads shall be connected with a quick disconnect connector and routed through conduit to the transformer control cabinet. Manufacturer shall preset alarm and trip set points.
8. A rapid pressure rise relay shall be furnished and prewired to a seal-in relay located in the transformer control box. The rapid pressure rise relay shall be flange mounted to a shut off valve. The seal-in relay shall have a 125 VDC operating coil with a minimum of 3 normally open contacts for sealing-in, target indication, and trip. A reset button shall also be provided. Provide Qualitrol 900 Series Rapid Pressure Rise Relay and 909-300 seal-in relay or approved equal.
9. A pressure relief device with standard alarm switch and a visual indicating flag for each oil filled compartment shall be supplied. One set of normally open contacts shall be provided for signaling operation to SCADA. Switch leads shall be connected with a quick disconnect connector and routed to the control cabinet. Provide Qualitrol XPRD Pressure Relief Device or approved equal.
10. The Supplier shall supply and install steel or aluminum piping to direct the flow of oil from each pressure relief device to a point 1 foot above the base of the transformer. Support the piping as required. Piping and supports shall be painted to match the color of the transformer.
11. An alarm for loss of AC power to the cooling system shall be provided.

J. OIL AND OIL PRESERVATION:

1. The transformer shall be furnished complete with mineral insulating oil and utilize an option of one (1) of the following:
 - a. Hermetically sealed tank design.

OR

 - b. Oil preservation system shall be by automatic nitrogen gas equipment with alarm contacts for low cylinder and high/low transformer tank pressure and with a gas sampling capability. An enclosure shall be furnished to protect oil preservation equipment. The unit shall include a relief valve and regulating system at the transformer.

2. Oil shall be Type II (oxidation inhibited) mineral insulating oil of petroleum origin for use as an insulating and cooling agent in power transformers with 0.3% inhibitor content.
3. The oil shall meet all applicable requirements of Type II mineral oil as defined in the latest revision of ASTM Standard D3487-87A. Transformer nameplate shall contain manufacturer's certification that the insulation oil used meets all federal requirements for PCB concentrations.
4. A pressure-vacuum gauge shall be provided on the main tank. Also provide a pressure-vacuum bleeder for the main tank.
5. The Supplier shall furnish a certified report at the time of delivery of the transformer indicating compliance with all regulations concerning polychlorinated biphenyl's (PCBs).

K. CORE AND COILS:

1. The core shall be constructed using low loss cold-rolled grain-oriented silicon steel. Steel is to be cut to width, annealed and coated with an inorganic insulating material.
2. Cores shall be constructed using stepped circular cross-sections with fully mitered step lap joints for all windings except the series winding or preventative autotransformer if used. No section of the core assembly shall be bolted together for support. Core legs shall be bonded with epoxy cement after assembly.
3. The core shall be insulated from its support frames and connected to ground at only one point. The core ground strap is to be brought out through the tank cover and grounded using a low voltage bushing and a small JIC box or other suitable mechanical protection.
4. All windings shall be made of copper rectangular magnet wire with thermally upgraded paper used for turn to turn insulation. Continuously transposed conductor can be used where appropriate. The conductor is to be tested prior to insulation wrapping through the use of burr detectors or similar device to ensure that there are not any burrs or nicks in the conductor. The insulating paper shall be applied in either single or multiple strands in such a manner that there is a 30% overlapping of the paper surfaces. Sufficient tension shall be maintained during the insulation application to prevent loose wraps.
5. Winding cylinders shall be made from a single piece of high density material as manufactured by EHV Weidmann, Lignostone, or approved equal. All coil spacers shall be keyed to the winding cylinder and to vertical key strips on the outside of the coil.

6. Coils shall have their full circumference supported by the frame assembly. Coil supports and full circumference clamping rings shall be fabricated using high density material as manufactured by EHV Weidmann, Lignostone, or approved equal.
7. The transformer, including all core and coil assemblies, shall be power class, circular core/coil design. The high side shall be disk wound and the low side shall be disk or helical construction. **Rectangular core and coils are not acceptable for this transformer.**
8. Core and coils shall be dried using a “vapor phase” system prior to filling.
9. The regulating winding shall be fully distributed and be electrically independent from or placed in a separate winding tube from the high and low voltage windings.
10. The core and coil assembly shall be dry enough to obtain a power factor of 0.5% or less at 20°C.

L. MECHANICAL FEATURES – MAIN TANK:

1. The de-energized tap changer on the high voltage side shall have the operating handle(s) brought out to the side of the tank with provision for padlocking.
2. A magnetic liquid level gauge with two-step normally open contacts shall be furnished. The first step shall alarm on a low oil level condition, with the second step initiating a breaker trip upon a critical low oil level. A minimum of two contacts per stage shall be wired and accessible in the transformer control cabinet. Manufacturer shall recommend settings for the transformer supplied and implement these at the factory.
3. A tank pressure gauge shall be provided to monitor nitrogen gas pressure in the tank. A minimum of two individually adjustable, normally open alarm contacts associated with the pressure on the tank shall be included. Manufacturer shall recommend settings for the transformer supplied and implement these at the factory.
4. A tank valve shall be provided to serve as drain valve, bottom filter press connection, and liquid sampling valve.
5. A valve shall be furnished for top filter press connection.
6. Provide lifting hooks on the tank, lifting eyes on the cover and provision for jacking.

7. The transformer base shall have members forming a rectangle which shall permit rolling in the directions of the centerlines of the segments. The points of support of these members shall be so located that the safe angle of tilt of the base shall be at least 15 degrees from the horizontal with or without oil in the transformer. Arrangement for pulling the transformer parallel to centerlines of segments shall be provided in the base. A flat-bottom unit also may be furnished.
8. The main tank cover shall be domed to ensure water runoff and welded to the tank. An inorganic gasket shall be permanently installed between the cover and the tank to prevent weld splatter from entering the tank. A minimum of two (2) manhole covers shall be provided with a raised rim to discourage entrance of moisture. Manhole covers shall have a handle and be of the bolt-on type.
9. All seams and joints shall be welded on the inside and outside. The tank and radiators shall be designed to withstand an internal operating pressure of 8 psi with a margin of at least 25% over pressure. The tank and radiators shall be designed to withstand full vacuum. All external tank supports and stiffeners shall be box beam construction, continuously welded, and shall not be pressurized to provide sufficient support.
10. A complete stainless steel instruction nameplate shall be furnished and mounted on the transformer.
11. The surface shall be washed with an iron phosphate conversion with a chrome seal before priming and painting.
12. The exterior surface shall first be primed with a two-part zinc chromate epoxy primer. Then a force cured two-part urethane enamel topcoat shall be applied using plural component equipment that automatically measures and mixes the paint system. The exterior coating shall be a minimum of 3 mils thick and capable of meeting ANSI C57.12.28.
13. Tank finish shall be ANSI #70 gray. The top of the tank shall be coated with a nonskid surface. The tank bottom shall be covered with an asphalt undercoating. Extra touch-up paint shall be furnished with the transformer. Inside of the control compartment shall be painted white.
14. The interior of the transformer tank, tank cover, and LTC compartment shall be coated with white oil resistant epoxy enamel compatible with transformer oil per ANSI 3455.
15. All auxiliary wiring shall be terminated in a cabinet mounted on the side of the transformer tank located in Segment 4. Cabinet shall be completely weathertight, gasketed, with a three-point latching

mechanism. Cabinet shall have swing doors with lock down in open position, padlockable in the closed position. All equipment shall be provided with marked terminal blocks for interconnecting wiring with remote control panels. A drill plate on bottom of control box shall be provided for conduit entrance. A copper ground bus shall be provided, tapped for grounding of current transformers, etc.

16. The tank and radiators shall be fabricated from steel with sufficient strength to withstand normal service stresses without distortion or damage.
17. All joints in the tank and radiators shall be made oil tight and gas tight by welding inside and outside. Seams on all tank wall corners will NOT be acceptable.
18. All exterior wiring shall be placed in weather-proof conduit, rigid or flexible as appropriate based on the applications. Conduit shall be securely attached to the transformer.
19. The operating mechanism/control cabinet shall be rated NEMA 3S, dust tight, rain tight, and sleet and ice proof with a three-point latching mechanism. Provide anti-condensation heater(s) as required.
20. The transformer shall be furnished with an air terminal chamber (ATC), containing the low side bushings, neutral bushing, and lightning arresters. The LV air terminal chamber shall be provided with hinged doors on front side for easy access and installation. The air terminal chamber shall have access removable covers/doors on the sides. The doors shall be completely weathertight, gasketed, and shall be provided with a stainless steel or cast handle and three-point latching mechanism. The bottom of the ATC shall be approximately 70" above the base of the transformer. The terminal chamber shall be equipped with a removable plate for terminating conduits. The terminal chamber shall be installed in Segment 1 as defined by ANSI Standard C57.12.10.

M. LOAD TAP CHANGER:

1. The LTC mechanism shall be mounted in a separate compartment in Segment 2 as defined by ANSI Standard C57.12.10 (not in the main tank), that will permit completely draining all the oil in the compartment without draining the oil in the main transformer tank.
2. The tap changer shall provide voltage regulation of 10 percent raise, or lower, in (16) 5/8 percent steps, both raise and lower.
3. The LTC compartment shall be capable of withstanding full vacuum in the main tank without damage to the LTC compartment or components.

4. The LTC shall be vacuum type and shall be sized to fit the ampacity requirements of the transformer.
 - a. Vacuum type shall be Reinhausen Manufacturing, Inc. type RMV-II. A vacuum bottle protective circuit shall be provided with a set of contacts for alarm purposes with the RMV-II tap changer.
5. Tap changer shall consist of a motor operated tap changer. The tap changer shall also be provided with a weatherproof compartment for all control components needed for automatic LTC control, terminal boards, conduit entrance and circuit breaker for control power.
6. The tap changer shall have full rated kVA taps above normal and current rating corresponding to full load current at rated voltage on all taps below normal voltage. Tap changer shall be designed to regulate the low voltage side and shall be installed in the LV winding, high voltage LTC's are not acceptable.
7. The tap changer shall be rated for 500,000 operations before contact replacement. The tap changer motor shall be rated for 120/240 VAC single phase.
8. The tap changer controller shall be digital with remote monitoring and control capabilities intended for a substation integration scheme, mounted inside the control cabinet. Furnish Beckwith type M-2001D. The unit shall be capable of communicating in DNP 3.0 communications protocol. Furnish the Beckwith S-2001D TapTalk® software that will be used to connect the unit via a remote laptop or other device(s). Also provide M-0329B backup control.
 - a. The controller settings will be furnished by the Engineer for testing at the manufacturing facility. Provide the Engineer 2 week's notice prior to testing of the LTC controller settings.
 - b. The Supplier shall provide the Engineer with a brief report verifying testing has been completed, whether the settings are satisfactory for proper controller operation, and recommendations for final setting implementation and commissioning.
9. The tap changer controller shall be equipped with the following accessories:
 - a. Voltage test terminals.
 - b. Voltage level setting control.

- c. Line drop compensation control in both forward and reverse directions.
- d. Bandwidth adjustment control.
- e. Adjustable time delay.
- f. Operation counter.
- g. Inhibit of automatic tap change from remote control systems.
- h. Voltage reduction control. Control shall be capable of up to 10% voltage reduction locally, remotely, or automatically. Control unit shall have designated terminal locations where these connections can be made.
- i. Voltage limit control. Control shall prevent the regulator from further raising or lowering its output above or below the preset value of the limit control. Control shall allow either local or remote initiation.
- j. Real-time and demand metering functions including time and date stamping.
- k. Forward and reverse power flow set up.
- l. Real-time clock.
- m. Key-pad operation.
- n. Alpha-numeric Vacuum Fluorescent Display VFD. Option V.
- o. Communications equipment. Front-panel local data port for connection to a portable computer, USB 1.1. Include communication software for installation on Owner's computer.
- p. Communications port (COM1-top) shall interface with fiber optic (ST) and RS-485. Option 4S.
- q. Communications port (COM2-top) shall interface with standard RS-232. Option 20.
- r. Ethernet port (COM3-top) shall be RJ-45 jack. Option C.
- s. Communications protocol shall be MODBUS and DNP 3.0. Option 0.

- t. User-programmable alarm contacts.
 - u. SD card slot.
10. Tap changer shall be equipped with the following accessories:
- a. The Supplier shall furnish a dual column breather (DCB) or auto recharging dehydrating breather system to the LTC of the transformer. The system shall remove moisture from incoming air into the LTC tank. DCB shall be shipped as a single, integrated assembly along with accessories necessary for installation. The DCB controller shall have indicating LEDs of breather status and hardwired alarm contact to terminal block in primary control cabinet. Power for DCB shall be integrated into the existing 120/240 VAC supply for transformer and not require an independent power circuit.
 - b. Manual tap changing crank or handwheel.
 - c. Position indicator with drag hands and electric reset momentary switch. The reset switch shall be located in an easily accessible location in the control panel compartment. **Indicator shall be located in a position that is easily seen by a person standing on the ground directly adjacent to the unit, with the control cabinet doors closed.**
 - d. Interlock to prevent electrical operation with crank installed.
 - e. Current source for compensator. Provide an LDC-CT as required.
 - f. Liquid level indicator for LTC compartment with two-step normally open contacts shall be furnished. The first step shall alarm on a low oil level condition, with the second step initiating a breaker trip upon a critical low oil level. A minimum of two contacts per stage shall be provided. Manufacturer shall recommend switch settings for the transformer supplied.
 - g. Drain and filter valves for LTC compartment.
 - h. LTC control cabinet shall be equipped with a 120 V, 20 A weatherproof receptacle.
 - i. LTC control cabinet shall be equipped with a door-activated LED light.
 - j. LTC control cabinet shall be provided with a positive temperature coefficient heater to minimize condensation.

Provide High Voltage Supply 1030 or equal. Quantity and size of heaters shall be determined by Supplier.

- k. Static voltage sensing device.
 - l. Non-resettable operation counter.
 - m. Local-remote-off switch with spare contact for remote switch position indication located inside the transformer control cabinet.
 - n. Circulating current apparatus including paralleling reactor, appropriate control circuits and switch, paralleling current transformers, and lock-out relaying equipment with normally open contact for alarming high circulating current, to allow transformer to be operated in parallel.
 - o. Provide terminal blocks and provisions for remote auto-manual switching and remote raise-lower switching, located inside the transformer control cabinet. Remote switches by Supplier.
11. Provide all necessary selsyns and contacts to provide remote position indication. Furnish a solid state remote position indicator and transducers in the transformer cabinet (INCON 1250B). Also furnish a current loop interface (Beckwith M-2025B) to connect the 0-1 mA output of the 1250B to the Beckwith M2001D controller, which will provide tap position indication in the controller. Locate devices inside the transformer control cabinet. INCON shall be factory programmed.
 12. The load tap changer mechanism is to be furnished with its own nameplate which fully describes the system. Items to be included, but not limited to, are manufacturer, model number, year of manufacture, maximum rated through current, type of mechanism, and the amount of oil (gallons).
 13. Minimum and maximum control cabinet heights above ground shall be 24 inches and 72 inches, respectively. Control cabinet shall have swing doors with lock down in open position, padlockable in the closed position.

N. CONTROL WIRING REQUIREMENTS:

1. All taps of the multi-ratio BCTs shall be brought to an accessible shorting-type terminal block in the control cabinet. Shorting type terminal blocks shall be General Electric Type EB-27 or equal.
2. All wiring shall be identified at the terminal blocks to designate its source and function. Terminal blocks shall be General Electric type EB-25 or equal.

3. All wiring in the cabinet shall be neat in appearance. Wires shall be terminated with ring type insulated lugs, with both lug and insulation securely crimped.
4. All control circuits shall be protected with appropriately identified breakers or hinged knife blade disconnect switch and clip mounted fuses.
5. Control and auxiliary circuits shall be wired with #12 AWG, minimum, switchboard wire. All current transformer wiring shall be #10 AWG, minimum, switchboard wire. All switchboard wire shall be XL or ETFE (Tefzel 750) insulated, stranded wire, type SIS.
6. All alarm and auxiliary contacts shall be suitable for use on an ungrounded 125 VDC. The contacts shall be individually wired out to terminal blocks and shall be electrically isolated.
7. All control wiring between compartments and/or cabinets shall be enclosed in metal raceways.

O. TRANSFORMER DIMENSIONS:

1. This transformer will replace an existing transformer at the Owner's substation. The dimensions and configuration of the proposed transformer shall be arranged to accommodate existing connections and space limitations.

P. ACCEPTABLE MANUFACTURERS:

1. A transformer from the following list of manufacturers only shall be furnished, unless written permission is obtained from the Engineer or Owner.
 - a. Hitachi (ABB Kuhlman).
 - b. Delta Star Inc.
 - c. Prolec-GE-Waukesha (formerly SPX)
 - d. Pennsylvania Transformer Technologies, Inc.
 - e. WEG Transformers USA
2. Successful Example Projects: Supplier shall include with their Proposal a list of recent successful projects for a similar transformer, including transformer rating, location and manufacturing-to-delivery schedule.

Q. DRAWINGS AND MANUALS

1. Approval drawings:
 - a. Submit as electronic files in AutoCAD and .pdf compatible formats via e-mail to the Engineer.
 - b. Drawings shall be no larger than 11X17.
 - c. Drawings and instructions shall be submitted to the Engineer prior to manufacture of the transformer.
2. Final Drawings and Images:
 - a. Furnish electronic .pdf and AutoCAD files of the following:
 - (1) Nameplate drawing.
 - (2) Outline of main tank and associated equipment.
 - (3) Control schematics and wiring diagrams of all equipment.
 - (4) Connection diagrams.
 - (5) Outline of arresters and bushings.
 - (6) Instruction books for transformer and all equipment.
 - b. Furnish all final drawings no later than 10 days following the final test of equipment.
 - c. Submit electronic files on a CD or via a secure cloud file sharing service.
 - d. High resolution digital color photographs of the core and coils before installation in the transformer tank shall be taken from each side, each end, and the top for all transformers. Photos shall be submitted to Engineer after assembly of core and coils. Prints of photos shall be included in each instruction book furnished. Pictures shall also be provided to the Engineer promptly after being taken.
3. All drawings, manuals, nameplates, including nameplates for auxiliary devices shall be printed in English.

2.06 EXECUTION

A. TESTING AND REPORTS:

1. All tests shall be made in accordance with the latest revision of ANSI Standard C57.12.00 for a Class II transformer and a certified test report in electronic .PDF and hard copy (one per manual) versions shall be provided. Any and all factory and field tests that are required by the manufacturer and are required so as not to void any part of the

warranty, shall be made by the manufacturer and its personnel. Any and all costs as well as equipment required for and associated with these required tests shall be the responsibility of this Firm. Standard tests include but are not limited to the following tests:

- a. Resistance measurements of all windings on the rated voltage tap and at the tap extremes.
- b. Ratio tests on rated voltage connections and on all tap connections.
- c. Polarity and phase-relation tests on rated voltage connections.
- d. No load loss at rated voltages on rated voltage connections.
- e. Exciting current at rated voltage on rated voltage connections.
- f. Impedance and load losses at rated current on rated voltage connections and on the tap extremes.
- g. Mechanical leak test on tank and coolers.
- h. Applied potential tests.
- i. Induced potential tests.
- j. Impulse tests or production line impulse test may be accepted as a substitute for the standard test if approved by the Engineer.
- k. Insulation power factor test. Power factor test shall be made on each oil filled bushing, individual winding to ground, and between windings. The values of bushing and winding power factor shall not exceed 0.5 percent, when corrected to 20 degree C.
- l. Winding temperature rise for each stage of cooling specified.
- m. The transformer design shall be adequate to withstand short circuits, with the fault current limited only by the impedance of the transformer itself.
- n. Partial discharge test and RIV test shall be performed simultaneously on all windings. No partial discharge greater than 300 pico-coulombs shall be acceptable.
- o. Sweep frequency response testing shall be performed to generate a “footprint” of the winding positioning to be used to determine if the windings have moved or shifted. This critical

determination of winding movement will be used as basis for future evaluation of the integrity of the transformer.

2. Oil screen tests for the main tank and LTC include the following.

a. Liquid Screen Analysis:

- (1) Dielectric test (ASTM D877 and D1816-2)
- (2) Neutralization [Acid Number (D-974)]
- (3) Interfacial Tension (D-971).
- (4) Moisture (D-1533).
- (5) Color Number (D-1500).
- (6) Visual and Sediment Examination (D-1524).
- (7) Power Factor @ 25°C and @ 100° C (D-924).
- (8) Specific Gravity (D-1298).

b. *Gas-In-Oil Analysis:

- (1) Hydrogen
- (2) Oxygen
- (3) Nitrogen
- (4) Methane
- (5) Carbon Monoxide
- (6) Carbon Dioxide
- (7) Ethane
- (8) Ethylene
- (9) Acetylene

* Gas-In-Oil Analysis tests shall be performed before all electrical testing.

3. The Owner or Engineer reserves the right to witness the tests at the manufacturer's facilities. Provide a minimum of 2 weeks' notice prior to factory testing.

4. The Owner or Engineer reserves the right to inspect the completed core and coil assembly prior to tanking. The manufacturer shall notify the Owner and Engineer not less than five days prior to the date of tanking to allow the customer to witness tanking, if so desired.

B. FIELD SERVICES:

1. The Supplier shall include the cost of installation and field services for each transformer in the spaces provided on the Proposal Form. The services shall include the following items at a minimum. The Supplier shall also attach a detailed description with the Proposal of the services to be performed.

2. The services shall include receiving the transformer, unloading, placement of unit on concrete pad, attachment of all radiators and

accessories, and filling of oil as required. The Supplier shall inspect the unit and repair any damage experienced during shipment.

3. The services shall include testing the unit. The minimum tests shall be standard field test, including, but not limited to TTR, megger check, core ground check, and LTC operation tests, and shall include all tests required in order not to void the warranty. Certified test reports shall be supplied. Attach a complete list of tests proposed with the Proposal.
4. In addition to standard field tests, the Supplier shall furnish certified oil tests covering the oil tests listed below. The Supplier shall send the samples to lab approved by the Owner. These tests shall be done in the field after the transformer is placed on the pad, NOT at the manufacturing site.
 - a. Liquid Screen Analysis:
 - (1) Dielectric test (ASTM D877 and D1816-2)
 - (2) Neutralization [Acid Number (D-974)]
 - (3) Interfacial Tension (D-971).
 - (4) Moisture (D-1533).
 - (5) Color Number (D-1500).
 - (6) Visual and Sediment Examination (D-1524).
 - (7) Power Factor @ 25°C and @ 100° C (D-924).
 - (8) Specific Gravity (D-1298).
 - b. Gas-In-Oil Analysis:
 - (1) Hydrogen
 - (2) Oxygen
 - (3) Nitrogen
 - (4) Methane
 - (5) Carbon Monoxide
 - (6) Carbon Dioxide
 - (7) Ethane
 - (8) Ethylene
 - (9) Acetylene

*Gas-In-Oil Analysis tests shall be performed before all electrical testing.
5. Submission of a Proposal with per diem or hourly rate without including a total or limit to this section will be grounds for disqualification of the Proposal.
6. The Supplier shall include hourly or daily rate for additional work beyond the scope of this contract in the event these services are required.

7. **The field services shall be completed within 7 days after delivery of the transformer.**

C. SHIPPING AND DELIVERY PROCEDURES:

1. The Proposal(s) shall include F.O.B to the transformer pad at the project location in Sioux Falls, SD. The project site address is as follows:

Elm Street Substation
2000 North Minnesota Avenue
Sioux Falls, SD

2. The seller shall notify the Engineer by telephone when equipment is ready for shipment. In addition, seller shall advise the Engineer of method of shipment, projected routing and estimated time in shipment.
3. Title to the equipment shall pass to the Owner upon acceptance testing and checkout of the equipment and receipt of all required documentation.
 - a. Supplier shall notify the Owner when equipment is ready for shipment **at least 7 days prior to delivery.**
 - b. Supplier shall notify the Electric Superintendent by telephone when equipment is ready for shipment, **AT LEAST 48 HOURS PRIOR TO DELIVERY.** The Contact for delivery is: Light and Power Supervisor Kyle Hills – (605) 212-1868.
 - c. Deliveries Accepted: Monday-Friday, 8:00 AM – 5:00 PM, working days only.
 - d. Supplier shall also coordinate delivery in advance with the substation construction Contractor to ensure the Contractor can schedule to be on-site during delivery of the equipment.
 - e. The Supplier shall coordinate delivery locations with the Engineer.
 - f. The transformer must adhere to the size constraints laid out in the Technical Specifications, where applicable.
 - g. The seller shall investigate all limitations in regard to shipping and offloading the equipment, including examination of the site for gate, road and access limitations, and include the costs for such limitations in the Proposal. The transformer shall be shipped as completely assembled as transportation limits allow.

- h. The transformer shall be shipped on a cushioned low-boy truck recently inspected and determined to be 100 percent operable, or other means agreed to by Owner. If rail delivery is used, the Supplier shall furnish transportation and loading of transformer from the appropriate rail siding to the job site.
- i. A minimum of two (2) separate three-directional impact recorders shall be installed on the truck, railroad car, or any other means of transportation for the transformer during the entire shipping process. The impact recorders shall be mounted on the truck, railcar, or other transportation means prior to shipment. Correct operation of all impact recorders shall be confirmed before shipment leaves the factory. Impact recorder results shall be provided to the Engineer, in an electronic file format via E-mail.
- j. The transformer shall be shipped with the vacuum/pressure gauges installed and connected. Prior to shipment, the seller shall affix signed and dated weatherproof tags to the vacuum/pressure gauges listing the gauge readings, the ambient temperature, and the barometric pressure at the time of reading. Transformer shall be shipped with a dry-air or dry nitrogen sealed tank oil preservation system to assure positive pressure.
- k. Prior to shipment, all gauge and indicator glass shall be thoroughly cleaned and covered with non-adhesive shipping protectors.
- l. Insulating oil, if shipped separately, shall be delivered to the construction site F.O.B. destination, freight prepaid. For transformers shipped dry, oil shall be delivered by tank truck. For transformers shipped oil filled, any make up oil of quantities less than 1,000 gallons shall be provided in 55 gallon non-returnable drums.
- m. If the transformer is shipped without oil, the transformer supplier shall include in their base Proposal price the cost of vacuum oil filling the unit in the field.
- n. Bushings shall be shipped in crates suitable for long term storage, either in an upright position or at an incline as specified by the manufacturer. These storage requirements shall be clearly marked on the shipping container.

D. WARRANTY:

1. Supplier shall furnish a standard warranty package with the material.
2. **The warranty shall be in effect 60 months from date of energization.**
3. Shall be comprehensive, without deductibles, and shall cover all equipment furnished by Supplier, whether or not it was manufactured by the Supplier.
4. Warranty shall be a 60 month in/out warranty, including, but not limited to, the following:
 - a. Removal of transformer from service.
 - b. Disconnecting primary and secondary conductors and control cables.
 - c. Loading, hauling and delivery of transformer to repair facility.
 - d. Inspection and repair of the transformer.
 - e. Loading, hauling, and delivery of the transformer to the Owners site.
 - f. Reconnecting primary and secondary conductors and control cables.
5. All repair parts, labor, and travel expenses necessary for repairs at the job site shall be included.

E. TERMS AND CONDITIONS:

1. The Firm is invited to attach their standard patent protection and liability limitation conditions.
2. Terms or conditions submitted with the Proposal outside of those listed in the RFP specifications and requirements will be considered in the evaluation of Proposals. All additional costs required to meet this specification shall be deemed to be included in the base price.

F. CONTRACT AWARD:

1. It is the City's intent to enter into a contract with a Firm who best demonstrates the ability to provide the products and services as **described in the Scope of Work in Section 2 and as determined by the evaluation criteria defined in Section 4.** After review of the proposals, if the City decides to not enter into contract, the City will notify all Firms.

G. PERFORMANCE BOND:

1. At the time of the execution of the contract, the successful bidder shall furnish

a security bond in the sum equal of the amount of the contract value for faithful performance to the contract. The bond shall be issued by a surety company authorized to do business in the state of South Dakota.

SECTION 3 PROPOSAL FORMAT AND CONTENT

3.01 Submittal Requirements

The following table provides a summary of applicable sections to include in the RFP. Relevant information pertaining to each section can be found below. The proposals should be in an 8 1/2-inch by 11-inch bound package. 11-inch by 17-inch size sheets folded into 8 1/2-inch by 11-inch size within the package will be acceptable. The front and back of each page will be considered one page.

Proposal Section	
1	Cover Letter
2	Proposal Price Form – Sections 1-3 Completed
3	Outline Drawings, Project References and Attached Supplemental Information

1. Cover Letter

Provide name and address of the Firm and project contact person with address, telephone number, and email address. Acknowledge receipt of any addenda if applicable. Summarize your understanding of the Project. Provide a statement indicating your ability to provide timely services and meet the requirements of the proposed schedule. Indicate your acceptance of the requirements of this RFP. Provide a one-page summary of the benefits you believe the City would receive from selecting your Firm.

The cover letter **must be signed** by a duly authorized official of the Firm. Consortiums, joint ventures, or teams submitting proposals must establish contractual responsibility rests solely with one company or one legal entity. Each submittal should indicate the entity responsible for execution on behalf of the proposal team. The Firm offer must be good for 180 days.

2. Proposal Form

Furnish a completed Proposal Price Form with all Sections completed, including Base and Alternate Proposal Price, including all costs for field services, assembly, and supplemental technical information as required on the Proposal Form and the Specifications. **Any exceptions to the Specifications shall be noted in Proposal.**

3. Outline Drawings and Attached Supplemental Information

Furnish supporting outline drawings, clarifications and other technical information as required in the Section 2 – Scope of Work and on the Proposal Form. Include list of recent successfully completed projects and details as required.

[SEE NEXT PAGES FOR PROPOSAL PRICE FORM (2 PAGES TOTAL)]

**PROPOSAL PRICE FORM
FURNISHING A POWER TRANSFORMER WITH ASSEMBLY AND TESTING
CITY OF SIOUX FALLS**

SECTION 1: POWER TRANSFORMER PRICING

The Firm, being familiar with all the details, conditions, and requirements hereby proposes to furnish One (1) dual-voltage 67x120 kV Delta to 13.8/7.9Y power transformer with load tap changer and other accessories as specified with the following maximum guaranteed loss characteristics according to the following amounts.

The Firm shall provide a Base and Alternate Price according to the specified capacity ratings (MVA).

Item Number	Description	Base Proposal Price 12/16/20 MVA 55°C 13.4/17.9/22.4 MVA 65°C	Required Alternate Proposal Price 15/20/25 MVA 55°C 16.8/22.4/28 MVA 65°C
1.A	Base Price, (Including Transportation and Offloading)	\$ -	\$ -
1.B	Field Services (Assembly & Testing)	\$ -	\$ -
1.C	Total Purchase Price (1.A+1.B) =	\$ -	\$ -

SECTION 2: PRICE EVALUATION INFORMATION

The Firm shall provide the following guaranteed maximum loss (kW) information for the Owner to complete evaluation of the Proposals. The Owner will evaluate Proposals based on the Firm's ability to meet the schedule and technical requirements of the specifications and Scope of Work in Section 2 of the RFP. See the Payment (Section 2, Part 2.02), Schedule (Section 2, Part 2.03) and Liquidated Damages (Section 2, Part 2.04) requirements for information regarding purchase price adjustment (schedule incentives and damages).

Item Number	Description	Base Proposal Price 12/16/20 MVA 55°C 13.4/17.9/22.4 MVA 65°C	Required Alternate Proposal Price 15/20/25 MVA 55°C 16.8/22.4/28 MVA 65°C
2.A	**No-Load Loss, 20°C (kW)		
2.B	Total loss @ base MVA, 85°C (kW)		
2.C	Load loss (2.B-2.A) (kW)		
2.D	Total Purchase Price (1.C)	\$ -	\$ -
2.E	(2.A) x \$10,730.00 =	\$ -	\$ -
2.F	(2.C) x \$5,010.00 =	\$ -	\$ -
2.G	Total Evaluation Price (1.C+2.E+2.F) =	\$ -	\$ -

**PROPOSAL PRICE FORM
FURNISHING A POWER TRANSFORMER WITH ASSEMBLY AND TESTING
CITY OF SIOUX FALLS**

SECTION 3: SUPPLEMENTAL PROPOSAL INFORMATION		
The Bidder shall provide the following information for the Owner to ensure the delivery, transportation and other requirements of the Specifications are met by the Bidder. Liquidated damages apply to delivery and installation requirements. See the Payment (Section 2, Part 2.02), Schedule (Section 2, Part 2.03) and Liquidated Damages (Section 2, Part 2.04) requirements regarding schedule and damages. ---Bidder shall attach a preliminary outline drawing of the proposed transformer configuration with all dimensions.		
Description	Base Proposal Price 12/16/20 MVA 55°C 13.4/17.9/22.4 MVA 65°C	Required Alternate Proposal Price 15/20/25 MVA 55°C 16.8/22.4/28 MVA 65°C
Guaranteed Sound Levels (dB):		
Guaranteed Auxiliary Losses (kW):		
Weight, Core and Coils (lbs.)		
Weight, Tank and Fittings (lbs.)		
Weight, Oil (lbs.)		
Weight, Total (lbs.)		
Oil Capacity (gal.)		
Dimension, Height (in.)		
Dimension, Width (in.)		
Dimension, Depth (in.)		
Weight, Oil (lbs.)		
Guaranteed Delivery Date (XX / XX / XX):		
Warranty duration included with Bid Price:		
Truck or Rail Delivery*:		
Circular Layer:		
Winding Material and Type:		
Shipped with or without oil**:		
Supporting documents attached:		
* If rail delivery is used, the Supplier shall furnish transportation and loading of the transformer from the appropriate rail siding to the job site.		
** If the unit is to be filled in the field, the cost of performing this task shall be included and completed by the Firm after delivery.		

SECTION 4 REVIEW OF PROPOSALS

4.01 Selection Criteria

Upon receipt of the proposals, an evaluation team will review and recommend the supplier most qualified to perform the work. The evaluation team will rely on the qualitative information contained and presented in the proposals and the ability to satisfy the specifications and schedule requirements defined in Section 2 Scope of Work. Selection criteria will be based on:

Evaluation Criteria (100-Point Potential Score)

- **35 points - Evaluated Proposal Price:** Factors include the submitted Base Price and Evaluated Proposal Price as defined in the Specifications and on the Proposal Form.
- **35 points - Ability to Meet Schedule:** The ability of the Supplier to deliver, transport, assemble, and complete the field services according to the desired schedule as defined in Section 2 – Scope of Work.
- **20 points - Conformance to Specifications:** Factors include the ability for the Supplier to furnish a transformer according to the technical specifications defined in Section 2 of this RFP. All clarifications and exceptions to the Scope of Work, Specifications and Schedule shall be identified in the Proposal.
- **10 points—Experience and Track Record:** Factors include past experience and track record furnishing equipment and services as defined in Section 2 – Scope of Work for similar utilities in the area.

Upon review of the proposals, the highest ranking firm will be asked to enter into contract negotiations with the City of Sioux Falls. If an agreement cannot be reached with the highest ranked Firm, the City may move to the next highest ranked Firm. The same process will be repeated with the other ranked Firms if no such agreement can be reached. The City of Sioux Falls reserves the right to not select a Firm as part of this process if an agreement cannot be reached or for any other reason.

4.02 Special Conditions

Excluding proprietary information, the successful Firm's proposal and contract are deemed public records and shall be available to the public upon request. In addition, the City shall maintain a "Register of Proposals for this Contract," which shall contain the names of companies who submitted a proposal and the name of the company who was awarded the contract; however, the proposals of the submitting Firms not awarded the contract are nonpublic records and will remain confidential.

SECTION 5 STANDARD PROPOSAL INFORMATION

5.01 Authorized Signature

An individual authorized to bind the Firm to the provisions of the RFP must sign all proposals.

5.02 City Not Responsible for Preparation Costs

The City will not pay any cost associated with the preparation, submittal, presentation, or evaluation of any proposal.

5.03 Conflict of Interest

Firms must disclose any instances where the Firm or any individuals working on the contract has a possible conflict of interest and, if so, the nature of that conflict (e.g., employed by the City of Sioux Falls). The City reserves the right to cancel the award if any interest disclosed from any source could either give the appearance of a conflict or cause speculation as to the objectivity of the Firm's proposal. The City's determination regarding any questions of conflict of interest is final.

5.04 Offeror's Certification

By signature on the proposal, the Offeror certifies that it complies with:

- The laws of the state of South Dakota.
- All applicable local, state, and federal laws, codes, and regulations.
- All terms, conditions, and requirements set forth in this RFP.
- A condition that the proposal submitted was independently arrived at without collusion.
- A condition that the offer will remain open and valid for the period indicated in this solicitation and any condition that the Firm and/or any individuals working on the contract do not have a possible conflict of interest (e.g., employed by the City of Sioux Falls).

If any Firm fails to comply with the provisions stated in this paragraph, the City reserves the right to reject the proposal, terminate the contract, or consider the contractor in default.

5.05 No Contact Policy

Any contact with any City representatives, related officials, or representatives other than those outlined in the RFP is prohibited. Such unauthorized contact may disqualify your Firm from this procurement.

5.06 Indemnification

To the fullest extent permitted by law, the provider, its subcontractors, agents, servants, officers, or employees, shall indemnify and hold harmless the City of Sioux Falls including, but not limited to, its elected and appointed officials, officers, employees, and agents from any and all claims brought by any person or entity whatsoever, arising from any act, error, or omission of the provider during the Firm's performance of the Agreement or any other agreements of the Firm, entered into by reason thereof. The Firm shall indemnify and defend the City of Sioux Falls including, but not limited to, its elected and appointed officials, officers, employees, and agents with respect to any claim arising, or alleged to have arisen from negligence, and/or willful, wanton, or reckless acts or omissions of the Firm, its subcontractor, agents, servants, officers, or employees and any and all losses or liabilities resulting from any such claims including, but not limited to, damaged awards, costs, and reasonable attorney's fees. The indemnification shall not be affected by any other portions of the agreement relating to insurance requirements. The Firm agrees that it will procure and keep in force at all times at its own expense insurance in accordance with these specifications.

5.07 Insurance Requirements

The Firm shall secure the insurance specified below. All insurance secured by the Firm under the provisions of this section shall be issued by insurance companies acceptable to the City. The insurance specified in this section may be in a policy or policies of insurance, primary or excess. Certificates of all required insurance shall be provided to the City upon execution of this agreement.

1. Workers' compensation insurance providing the statutory limits required by South Dakota law. In addition, it shall provide Coverage B, Employer's Liability Coverage, of not less than \$1,000,000 each accident, \$1,000,000 disease-policy limits. The required limit may be met by excess liability (umbrella) coverage.
2. Commercial general liability insurance providing occurrence form contractual, personal injury, bodily injury, and a property damage liability coverage with limits of at least \$1,000,000 per occurrence, \$2,000,000 general aggregate, and \$2,000,000 aggregate products and completed operations. The required limit may include excess liability (umbrella) coverage. The policy shall name the City and its representatives as an additional insured. If "occurrence form" insurance is not available, "claims made" insurance will be acceptable. The policy shall be maintained for three years after completion of this agreement.
3. Automobile liability insurance covering all owned, non-owned, and hired automobiles, trucks, and trailers. The coverage shall be as broad as that found in the standard

comprehensive automobile liability policy with limits of not less than \$1,000,000 combined single limit each occurrence. The required limit may include excess liability (umbrella) coverage.

4. Professional liability insurance providing occurrence basis coverage for the claims that arise from the errors of the Firm or its consultants, omissions of Firm or its consultants, failure to render a service by the Firm or its consultants, or the negligent rendering of the service by the Firm or its consultants in the amount of \$1,000,000 each occurrence and \$1,000,000 annual aggregate. If occurrence form insurance is not available, claims made coverage shall be maintained for two years after final completion of the services. The City does not represent that the above coverages and limits are adequate to protect the Firm or its consultant's interest and assumes no responsibility therefor.

The Firm will provide the City with at least 30 days' written notice of an insurer's intent to cancel or not renew any of the insurance coverage. The Firm agrees to hold the City harmless from any liability, including additional premium due because of the Firm's failure to maintain the coverage limits required.

The City's approval or acceptance of certificates of insurance does not constitute the City's assumption of responsibility for the validity of any insurance policies nor does the City represent that the above coverages and limits are adequate to protect any individual/group/business, its consultants' or subcontractors' interests, and assumes no liability therefore.

5.08 Special Conditions

The City of Sioux Falls reserves the right to reject any and all proposals, to waive formalities, and to select the proposal and developer(s) that, in the City's sole discretion, are in the best interests of the City of Sioux Falls, South Dakota.

The City reserves the right to:

- a) Amend, modify, or withdraw this RFP.
- b) Revise any requirements under this RFP.
- c) Require supplemental statements of information from any responding party.
- d) Extend the deadline for submission of responses hereto.
- e) Negotiate or hold discussions with any Firm to correct insufficient responses that do not completely conform to the instructions contained herein.
- f) Waive any nonconformity with this RFP.
- g) Cancel, in whole or in part, this RFP if the City deems it is in its best interest to do so.

- h) Request additional information or clarification of information provided in the response without changing the terms of the RFP.
- i) Waive any portion of the selection process in order to accelerate the selection and negotiation with the top-ranked Firm.
- j) Not award a contract as a part of, or result of, this RFP process.

The City may exercise the foregoing rights at any time without notice and without liability to any Firm, or any other party, for expenses incurred in the preparation of responses hereto or otherwise.

Part or all of this RFP and the successful proposal may be incorporated into the contract.

Federal Tax ID Number: Each Firm shall state its federal tax identification number on the line provided on the Proposal form. The City is required to report to IRS on Form 1099 all payments involving labor or services provided by vendors, and lack of this number may delay contract payments until the number is provided.

Right to Protest: Any Firm who is aggrieved in connection with the award of a contract may contact the Business Analyst to discuss the basis for an award. Venue and jurisdiction for any appeals from the award decision are in the South Dakota Circuit Court in Minnehaha County. Such protests and appeals regarding the request for Proposals and bid proposals are governed by and must be construed in accordance with South Dakota law.

Civil Rights Requirements: The successful Firm shall be subject to the provisions of Chapter 98 of the Code of Ordinances of Sioux Falls, SD. It is declared to be discrimination for the successful Firm, because of race, color, sex, creed, religion, ancestry, national origin, or disability, to fail or refuse to hire, to discharge an employee, or to accord adverse, unlawful, or unequal treatment to any person or employee with respect to application, hiring, training, apprenticeship, tenure, promotion, upgrading, compensation, layoff, discharge, or any term or condition of employment.

If the successful Firm is guilty of discrimination, this invitation for Proposal may be terminated in whole or in part by the City and the successful Firm shall be liable for any costs or expense incurred by the City in obtaining from other sources the work and services to be rendered or performed or the goods or properties to be furnished or delivered to the City under the invitation for Proposal so terminated or canceled.

Should the Sioux Falls Human Relations Commission in a proceeding brought as provided by the Code of Ordinances of Sioux Falls, SD, find that the successful Firm has engaged in discrimination in connection with this invitation for Proposal and issue a cease and desist order with respect thereto, the City shall withhold up to 15 percent of the contract price until such time as the Commission's order has been complied with or the successful Firm has been adjudicated not guilty of such discrimination.

The successful Firm will permit access to any and all records pertaining to hiring and employment and to other pertinent data and records for the purpose of enabling the

Commission, its agencies or representatives, to ascertain compliance with the above provisions.

This section shall be binding on all subcontractors or suppliers.