

RESOLUTION NO. _____

A RESOLUTION WAIVING FORMAL BIDDING REQUIREMENTS AND AUTHORIZING PAYMENT TO ARKANSAS ELECTRIC COOPERATIVES, INC. FOR THE PURCHASE OF TRANSFORMERS FOR THE NORTH LITTLE ROCK ELECTRIC DEPARTMENT; AND FOR OTHER PURPOSES.

WHEREAS, Ark. Code Ann. § 14-58-303 requires City purchases exceeding the amount of \$35,000 to follow statutory procedures of local advertisement and opening of sealed bids which may only be waived in exceptional situations where bidding is deemed not feasible or practical; and

WHEREAS, on or about March 26, 2024, the North Little Rock Electric Department (NLRED) solicited bids for pole mounted transformers (see bid invitation summary and specifications attached collectively hereto as Exhibit A); and

WHEREAS, Arkansas Electric Cooperatives, Inc. (AECI) has frequently provided equipment to the NLRED, and has offered the lowest bid for a majority of the items requested (see bid summary sheet attached hereto as Exhibit B); and

WHEREAS, the lowest bidder on the remaining items, Intellogic Engineering Inc., is an international company who does not have a local contact and has not been previously used by the NLRED; and

WHEREAS, the transformers are critical to the NLRED infrastructure, and it is in the best interests of the City and its citizens to acquire the transformers from a well-known vendor.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH LITTLE ROCK, ARKANSAS:

SECTION 1: That formal bidding is hereby waived in connection with the purchase of transformers from Arkansas Electric Cooperatives, Inc. in the amount of Thirty Nine Thousand Six Hundred Seventy Two and 00/100 Dollars (\$39,672.00).

SECTION 2: That the cost of the purchase shall be paid from the 2024 Electric Department Budget.

SECTION 3: That this Resolution shall be in full force and effect from and after its passage and approval.

PASSED:

APPROVED:

Mayor Terry C. Hartwick

SPONSOR:

ATTEST:

TERRY C. Hartwick

Mayor Terry C. Hartwick *by AT* Diane Whitbey, City Clerk

APPROVED AS TO FORM:

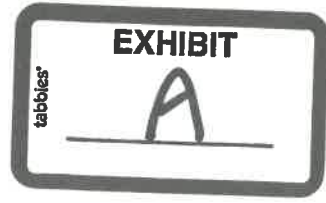
Amy Beckman Fields

Amy Beckman Fields, City Attorney

PREPARED BY THE OFFICE OF THE CITY ATTORNEY/kt

FILED	<u>10:40</u>	A.M.	_____	P.M.
By	<u>A. Fields</u>			
DATE	<u>5-7-24</u>			
Diane Whitbey, City Clerk and Collector North Little Rock, Arkansas				
RECEIVED BY	<u>S. Usery</u>			

NLR ITEM NO	DESCRIPTION	QTY	UOM				
ZA00524	TRANSFORMER, 5KVA 7620 120-240, TAP CONV 2 BUSHING	9	EACH				
ZA01024	TRANSFORMER, 10KVA 7620 120-240, TAP CONV 2 BUSHING	9	EACH				
ZA01524	TRANSFORMER, 15KVA 7620 120-240, TAP CONV 2 BUSHING	9	EACH				
ZA02524	TRANSFORMER, 25KVA 7620 120-240, TAP CONV 2 BUSHING	120	EACH				
ZA05024	TRANSFORMER, 50KVA 7620 120-240, TAP CONV 2 BUSHING (SEE NLR DIMENSION REQUIREMENTS)	120	EACH				
ZA07524	TRANSFORMER, 75KVA 7620 120-240, TAP CONV 2 BUSHING	6	EACH				
ZA10024	TRANSFORMER, 100KVA 7620 120-240, TAP CONV 2 BUSHING	6	EACH				
ZA16724	TRANSFORMER, 167KVA 7620 120-240, TAP CONV 2 BUSHING	6	EACH				
	BELOW HAVE THE SAME SPECIFICATIONS - OTHER VOLTAGES						
ZA02520	TRANSFORMER, 25KVA 7620 120-208, TAP CONV 2 BUSHING	6	EACH				
ZA02548	TRANSFORMER, 25KVA 7620 240-480, TAP CONV 2 BUSHING	6	EACH				
ZA02578	TRANSFORMER, 25KVA 7620 277-480, TAP CONV 2 BUSHING	6	EACH				
ZA05020	TRANSFORMER, 50KVA 7620 120-208, TAP CONV 2 BUSHING	6	EACH				
ZA05048	TRANSFORMER, 50KVA 7620 240-480, TAP CONV 2 BUSHING	9	EACH				
ZA05078	TRANSFORMER, 50KVA 7620 277-480, TAP CONV 2 BUSHING	9	EACH				
	DIMENSIONS FOR 50KVA TRANSFORMERS						
	50KVA						
	DIMENSIONS: Case H= 33", 42" w/ Bushing, W= 22.5"						



ELECTRIC DEPARTMENT

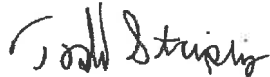


1400 West Maryland Ave., North Little Rock, AR 72120
P.O. Box 159, No Little Rock, AR 72115-0159
501-372-0100

Date: March 26, 2024
To: Amy Smith / commerce
From: Todd Stripling / Warehouse
Subject: 2025 annual invitation to Bid NLRED POLE MOUNT TRANSFORMERS

Attached is the package for the annual invitation to bid on NLRED POLE MOUNT TRANSFORMERS FOR THE YEAR 2025

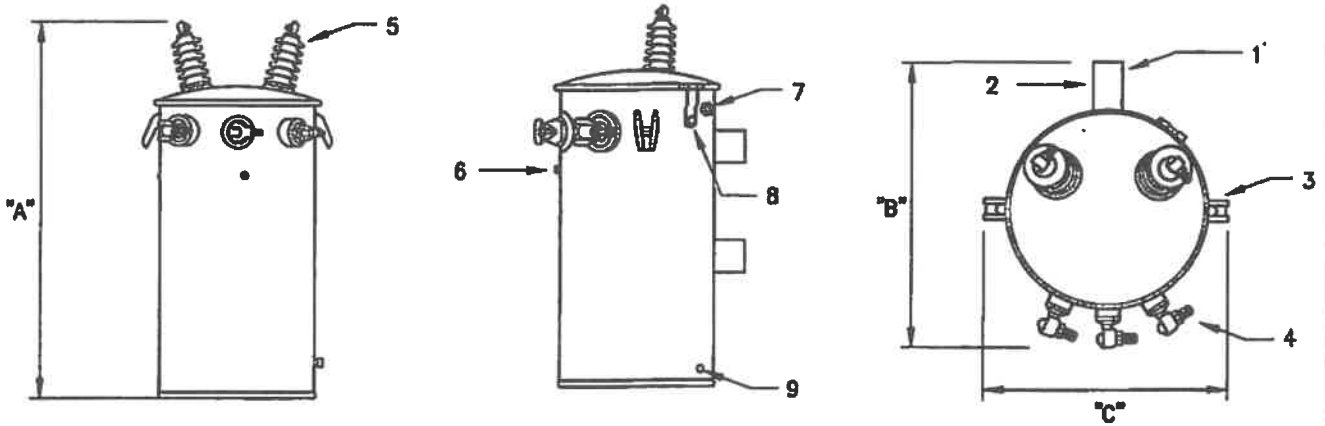
Sincerely,



Todd Stripling-warehouse
Cc: Dagny Pritchard- Finance

(501) 372-0100
An Equal Opportunity Employer

"B" & "C" DIMENSIONS INCLUDE ARRESTERS & RADIATORS IF APPLICABLE



H.V.: 7620/13200Y L.V.: 120/240V
 B.I.L.: 95 B.I.L.: 30
 TAPS: 2.5 ABOVE AND 2.5 BELOW CSP _____ CONV _____ X _____

PART	DESCRIPTION	TYPE	A	X	B	X	QUANTITY
1	HANGER BRACKETS			X		X	1 SET
2	NAMEPLATE (ON LOWER BRACKET)						1
3	LIFTING LUGS						2
4	L.V. BUSHING (QUANTITY)			X	3	4	
		X					
				X			
5	H.V. BUSHING						2
6	GROUNDING PROVISION						1
7	PRESSURE RELIEF DEVICE						1
8	COVER GROUND STRAP						1
9	TANK GROUNDING PROVISION	X					1
							2
X	TAP or DUAL VOLTAGE SWITCH						
X	EXTERNAL ARRESTER						
	SECONDARY BREAKER HANDLE						
	SPECIAL STENCILING or DECALS						
	RADIATORS						
	OTHER						

ITEM AND/OR STOCK #	KVA	DIMENSIONS IN INCHES			APPROX. GAL. OIL	APPROX. WEIGHT LB:
		A	B	C		
1	25	34.9	23.6	21	18.5	356
2	50	42.9	27.6	25	39.1	698
3	75	50.9	29.3	25	50.3	848

CADD FILE: NLR0031.DWG



NORTH LITTLE ROCK ELECTRIC CONSTRUCTION STANDARDS
 120/240V TRANSFORMER
 POLE MOUNTED TRANSFORMERS

DATE: 10/10/2016	REVISION
SHT No: 1	0
CONSTRUCTION STANDARD No.	G-4

**CITY OF NORTH LITTLE ROCK
ELECTRIC DEPARTMENT
SPECIFICATION GUIDE**

Functional Specification for Single-Phase Overhead Type Distribution Transformers 5 – 167 kVA

1.0 Scope

- 1.1. This specification covers the electrical and mechanical characteristics of 5 - 167 kVA Single-Phase Overhead Type Distribution Transformers.

2.0 Applicable Standards

- 2.1. All characteristics, definitions, and terminology, except as specifically covered in this specification, shall be in accordance with the latest revision of the following ANSI/IEEE, Department of Energy, and NEMA standards.

C57.12.00 – IEEE Standard for Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers

C57.12.20 – IEEE Standard for Overhead-Type Distribution Transformers, 500kVA and Smaller: High Voltage, 34500V and Below; Low Voltage, 7970/13800Y V and below

C57.12.31 – IEEE Standard for Pole Mounted Equipment – Enclosure Integrity

C57.12.35 – IEEE Standard for Bar Coding for Distribution Transformers

C57.12.90 – IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers

C57.12.91 – IEEE Guide for Loading Mineral-Oil-Immersed Transformers

NEMA TR 1-1993 (R2000) – Transformers, Regulators and Reactors, Table 0-2 Audible Sound Levels

10 CFR Part 431 – Department of Energy – Energy Conservation Program for Commercial Equipment: Distribution Transformers Energy Conservation Standards; Final Rule

[] Primary Protected – Primary overvoltage protection shall be provided by an externally mounted Polymer-Housed MOV arrester.

[X] Externally mounted 10 KV 8.4 MCOV Polymer MOV arrester with insulated copper lead connected to X1 primary bushing

The secondary voltage shall be one of the following and the basic insulation level (BIL) of the secondary voltage shall be 30 kV.

120/240 (5-100kVA - 3 Bushings, 167kVA - 4 Bushings)

240/480 (5-100kVA - 3 Bushings, 167kVA - 4 Bushings)

120 (2 Bushings)

277 (2 Bushings)

The applicable secondary voltage shall be specified on the inquiry.

The transformer may be furnished with full capacity high-voltage taps. The tap changer shall be clearly labeled to reflect that the transformer must be de-energized before operating the tap changer as required in Section 7.2.1 of ANSI C57.12.20. The tap changer shall be operable on the higher voltage only for transformers with dual voltage primaries. The unit shall have the following tap configurations:

Two – 2 ½% taps above and below rated voltage (Split Taps)

Construction

The core and coil shall be vacuum processed to ensure maximum penetration of insulating fluid into the coil insulation system. While under vacuum, the transformer will be filled with preheated filtered degassed insulating fluid. The core shall be manufactured from burr-free, grain-oriented silicon steel and shall be precisely stacked to eliminate gaps in the corner joints. The coil shall be insulated with B-stage, epoxy coated, diamond pattern insulating paper, which shall be thermally cured under pressure to ensure proper bonding of conductor and paper.

The tank shall include a pressure relief device as a means to relieve pressure in excess of pressure resulting from normal operation. The venting and sealing characteristics shall be as follows:

Cracking pressure: 10psig ± 2 psig

Resealing pressure: 6 psig minimum

Zero leakage from reseal pressure to -8 psig

Flow at 15 psig: 35 SCFM minimum

The tank provided shall have a recessed tank bottom which offers protection when sliding over rough surfaces.

The tank shall have an internal mark, which indicates the proper oil level per Section 7.2.3 of ANSI C57.12.20.

The tank shall be provided with a mild steel cover ring with stainless steel cover ring loops and a stainless steel bolt. A bronze nut shall also be provided to eliminate corrosion problems and avoid galling.

The tanks shall be complete with an anodized aluminum laser engraved nameplate. Nameplate shall conform to ANSI C57.12.00, nameplate A.

The tank shall include arrester mounting pads, grounding provisions, ANSI support lugs (hanger brackets) and lift lugs.

Tank sizes shall conform to the dimensions listed on the attached drawing.

The quantity of hanger brackets (one set or two) shall be specified on the inquiry.

High Voltage Bushings and Terminal

The high-voltage bushings provided shall be in accordance with Table 3.

**Table 3
Electrical Characteristics of Bushings**

BIL Withstand (kV)	<u>Creepage Distance</u> ¹		60-Hz Dry 1-Minute Withstand (kV)	60-Hz Wet 10-Second Withstand (kV)
	Inches	Millimeters		
30	-	-	10	6
45	-	-	15	13
60	-	-	21	20
75	-	-	27	24
95	10½ ± ½	267 ± 13	35	30
150	17	432	60	50
Single-Phase Transformer Bushings Only				
95 ²	16½ ± 1½	419 ± 38	35	30
125	16½ ± 1½	419 ± 38	42	36
200	26	660	80	75

1. Creepage distances are minimum values where no tolerance is specified.
2. For 16.34-kV rating only.

The bushing terminals provided shall be tin plated to accommodate both aluminum and copper conductors. The size of these terminals shall be in accordance with Table 4.

**Table 4
High-Voltage Terminal Sizes for Single-Phase Transformers**

Size of Terminal Opening Inches Millimeters	AWG Size of Conductor Terminal will Accommodate	kVA Range for High-Voltage Rating of:	
		5 kV And below	7.2 kV to 34.5kV
5/16 7.9 5/8 15.9	No 8 Solid to No 2 Stranded No 6 Solid to No 4/0-19 Stranded	10-167 250-500	10-500 -----

The color of the bushings shall match Light Gray Number 70, Munsell Notation 5BG7.0/0.4.

The number of high voltage bushings (one or two) shall be specified on the inquiry

Low Voltage Bushings and Terminals

The low-voltage bushings provided shall be in accordance with Table 3.

The bushing terminals provided shall be tin plated to accommodate both aluminum and copper conductors. The size of the terminals shall be in accordance with Table 5.

**Table 5
Low-Voltage Terminal Sizes for Single-Phase Transformers**

Size of Terminal Opening Inches Millimeters	AWG Size of Conductor Terminal will Accommodate	Transformer Low Voltage Rating (volts)		
		120/240	240/480	277
5/16 7.9	No 8 Solid to No 2 Stranded	-	-	-
5/8 15.9	No 6 Solid to No 4/0-19 Stranded	10-15	10-25	10-25
13/16 20.6	No 2 Solid to 350 kcmil-19 Stranded	25-50	37 ½ - 100	37 ½ - 100
15/16 23.8	No 1/0 Solid to 500 kcmil-37 Stranded	75	-	-
1-1/4 31.8	No 2/0 Solid to 1000 kcmil-61 Stranded	100	-	-
Spade H	---	167-250	167-500	167-250

The internal secondary leads shall be permanently embossed with the letters A, B, C, and D per ANSI C57.12.00 and C57.12.20. This marking can be used as a means to locate such leads with respect to one another for internal reconnection.

Primary Protected – Primary overvoltage protection shall be provided by an externally mounted Polymer-Housed MOV arrester.

Externally mounted 10 KV 8.4 KV MOV arrester

Finish Performance Requirements

Transformer shall be painted Munsell Notation 5BG7.0/0.4, ANSI 70 Gray. The coating system shall meet or exceed ANSI C57.12.31 coating system requirements for pole -mount equipment, including the following performance tests:

1. Salt spray test per ASTM B117 / D1654
2. Cross hatch adhesion test ASTM D3359
3. Humidity test per ASTM D4585 / D3363
4. Impact test per ASTM D2794 / B1117
5. Ultraviolet accelerated weathering (QUV) test per ASTM G154 / D523
6. Abrasion resistance Taber abraser test per ASTM D4060 / B1117

Certified test data shall be furnished upon request.

Production Testing

All units shall be tested for the following:

- No-Load (85°C or 20°C) losses at rated current
- Total (85°C) losses at rated current
- Percent Impedance (85°C) at rated current
- Excitation current (100% voltage) test
- Winding resistance measurement tests
- Ratio tests using all tap settings
- Polarity and phase relation tests
- Induced potential tests
- Full wave and reduced wave impulse test

The manufacturer shall provide the guaranteed average no-load and load losses for the unit at 85°C when specified. These losses will be subject to the tolerances listed in Table 6.

Table 6
Tolerance for Transformer Losses

Number of Units on One Order	Basis of Determination	No-Load Losses (%)	Total Losses (%)
1	1 unit	10	6
2 or more	Each Unit	10	6
2 or more	Average of all units	0	0

Accessories

The following checked accessories shall be provided:

- 15 kV insulated cover
- PVC bird guard(s)
- Handwheel bird guard(s)
- Non-PCB Decal
- Primary Voltage Decal
- Secondary Voltage Decal
- Extra creep bushing(s)
- Stainless steel hardware
- Stainless steel tank
- Stainless steel cover
- Stainless steel cover band
- ½" drain valve with sampling device
- Tank ground connector
- Ground strap

Any additional accessories will be specified on the inquiry.

Shipping

- 1.1. The unit shall be sufficiently banded or blocked to a suitable wood pallet.

Data With Proposal

- 1.2. The following data shall be submitted with the proposal when specified:

- Core losses
 - Winding losses
 - Percent Impedance
-
-



CITY OF NORTH LITTLE ROCK 24-3857 BID SUMMARY
 April 23, 2024 @ 10:00 a.m.



2025 Pole Mount Transformers for the North Little Rock Electric Department	Intelloptic Engineering Inc	Wesco	AR Electric Coop
TRANSFORMER, 5KVA 7620 120-240, TAP CONV 2 BUSHING	2660.00	1464.00	1276.00
TRANSFORMER, 10KVA 7620 120-240, TAP CONV 2 BUSHING	2860.00	1666.00	1521.00
TRANSFORMER, 15KVA 7620 120-240, TAP CONV 2 BUSHING	3140.00	2124.00	1669.00
TRANSFORMER, 25KVA 7620 120-240, TAP CONV 2 BUSHING	3440.00*	2508.00	2005.00
TRANSFORMER, 50KVA 7620 120-240, TAP CONV 2 BUSHING	4040.00*	4195.00	2745.00
TRANSFORMER, 75KVA 7620 120-240, TAP CONV 2 BUSHING	4740.00	5633.00	4124.00
TRANSFORMER, 100KVA 7620 120-240, TAP CONV 2 BUSHING	4980.00	6743.00	5214.00
TRANSFORMER, 167KVA 7620 120-240, TAP CONV 2 BUSHING	6690.00	8964.00	7270.00
TRANSFORMER, 25KVA 7620 120-208, TAP CONV 2 BUSHING	3440.00	2507.00	1985.00
TRANSFORMER, 25KVA 7620 240-480, TAP CONV 2 BUSHING	3440.00	2508.00	2005.00

Opened by: Amy Smith
 Recorded by: Sheila Harper



CITY OF NORTH LITTLE ROCK 24-3857 BID SUMMARY
 April 23, 2024 @ 10:00 a.m.

2025 Pole Mount Transformers for the North Little Rock Electric Department	Intellogic Engineering Inc	Wesco	AR Electric Coop
TRANSFORMER, 25KVA 7620 277-480, TAP CONV 2 BUSHING	3440.00	2509.00	1969.00
TRANSFORMER, 50KVA 7620 120-208, TAP CONV 2 BUSHING	4040.00	4196.00	2723.00
TRANSFORMER, 50KVA 7620 240-480, TAP CONV 2 BUSHING	4040.00	4197.00	2665.00
TRANSFORMER, 50KVA 7620 277-480, TAP CONV 2 BUSHING	4040.00	4198.00	2501.00
Delivery	24-26 Weeks	32-34 Weeks	16-20 Weeks
Manufacturer	Intellogic	MS-TN Transformers Inc	ERMCO
Additional Information	Deliver in batches: Estimated:	Some Transformers will be refurbished.	
	First Batch (40) 26-28 Weeks ARO		
	Second Batch (40) 35 Weeks ARO		
	Third Batch (40) 40 Weeks ARO		

Opened by: Amy Smith
 Recorded by: Sheila Harper