



NORTH LITTLE ROCK ELECTRIC DEPARTMENT

2025 POLE MOUNT TRANSFORMERS

VENDOR PACKET



INVITATION TO BID

Bid Number: 24-3857 Date Issued: April 3, 2024
 Date & Time Bid Opening: Tuesday, April 23, 2024 @ 10:00 am

TRANSFORMERS FOR THE NORTH LITTLE ROCK ELECTRIC DEPARTMENT

Description	Quantity	Price @ Each	ETA
TRANSFORMER, 5KVA 7620 120-240, TAP CONV 2 BUSHING	9		
TRANSFORMER, 10KVA 7620 120-240, TAP CONV 2 BUSHING	9		
TRANSFORMER, 15KVA 7620 120-240, TAP CONV 2 BUSHING	9		
TRANSFORMER, 25KVA 7620 120-240, TAP CONV 2 BUSHING	120		
TRANSFORMER, 50KVA 7620 120-240, TAP CONV 2 BUSHING (SEE NLRED DIMENSION REQUIREMENTS)	120		
TRANSFORMER, 75KVA 7620 120-240, TAP CONV 2 BUSHING	6		
TRANSFORMER, 100KVA 7620 120-240, TAP CONV 2 BUSHING	6		
TRANSFORMER, 167KVA 7620 120-240, TAP CONV 2 BUSHING	6		
TRANSFORMER, 25KVA 7620 120-208, TAP CONV 2 BUSHING	6		
TRANSFORMER, 25KVA 7620 240-480, TAP CONV 2 BUSHING	6		
TRANSFORMER, 25KVA 7620 277-480, TAP CONV 2 BUSHING	6		
TRANSFORMER, 50KVA 7620 120-208, TAP CONV 2 BUSHING	6		
TRANSFORMER, 50KVA 7620 240-480, TAP CONV 2 BUSHING	9		
TRANSFORMER, 50KVA 7620 277-480, TAP CONV 2 BUSHING	9		
DIMENSIONS FOR 50 KVA TRANSFORMERS		(*) NLRED 50KVA DIMENSIONS: Case H = 33", 42" w/ Bushing, W = 22.5"	

Manufacturer:

Specifications attached.

For technical questions and/or comments, contact Greg Stripling at 501-992-4052.
 General Bidding questions should be directed to the Commerce Department at 501-975-8881.

If you are obtaining this bid from our website, please be reminded that addendums may occur. It is therefore advisable that you review our listings for attachments including any changes to the bid.

The City of North Little Rock encourages participation of small, minority, and woman own business enterprises in the procurement of goods, services, professional services, and construction, either as a general contractor or sub-contractor. It is further requested that whenever possible, majority contractors who require sub-contractors, seek qualified small, minority, and woman businesses to collaborate with them.

Upon signing this page, the organization certifies that they have read and agree to the requirements set forth in this bid including conditions set forth and pertinent information requests. **UNSIGNED BID COVER SHEET WILL BE REJECTED.**

Name of Firm: _____ Phone No.: _____

Tax Identification No.: _____

Business Address: _____

Signature of Authorized Person: _____

Title: _____ Date: _____



NORTH LITTLE ROCK ELECTRIC DEPARTMENT

2025 POLE MOUNT TRANSFORMERS

VENDOR REFERENCE GUIDE

NLRED ITEM NO	DESCRIPTION	QTY	UOM	UNIT PRICE	NOTATIONS
ZA00524	TRANSFORMER, 5KVA 7620 120-240, TAP CONV 2 BUSHING	9	EACH		<u>See NLRED Specifications</u>
ZA01024	TRANSFORMER, 10KVA 7620 120-240, TAP CONV 2 BUSHING	9	EACH		<u>See NLRED Specifications</u>
ZA01524	TRANSFORMER, 15KVA 7620 120-240, TAP CONV 2 BUSHING	9	EACH		<u>See NLRED Specifications</u>
ZA02524	TRANSFORMER, 25KVA 7620 120-240, TAP CONV 2 BUSHING	120	EACH		<u>See NLRED Specifications</u>
ZA05024	TRANSFORMER, 50KVA 7620 120-240, TAP CONV 2 BUSHING (SEE NLRED DIMENSION REQUIREMENTS)	120	EACH		<u>See detailed dimensions below - specifications attached</u>
ZA07524	TRANSFORMER, 75KVA 7620 120-240, TAP CONV 2 BUSHING	6	EACH		<u>See NLRED Specifications</u>
ZA10024	TRANSFORMER, 100KVA 7620 120-240, TAP CONV 2 BUSHING	6	EACH		<u>See NLRED Specifications</u>
ZA16724	TRANSFORMER, 167KVA 7620 120-240, TAP CONV 2 BUSHING	6	EACH		<u>See NLRED Specifications</u>
	BELOW HAVE THE SAME SPECIFICATIONS - OTHER VOLTAGES				
ZA02520	TRANSFORMER, 25KVA 7620 120-208, TAP CONV 2 BUSHING	6	EACH		<u>See NLRED Specifications</u>
ZA02548	TRANSFORMER, 25KVA 7620 240-480, TAP CONV 2 BUSHING	6	EACH		<u>See NLRED Specifications</u>
ZA02578	TRANSFORMER, 25KVA 7620 277-480, TAP CONV 2 BUSHING	6	EACH		<u>See NLRED Specifications</u>
ZA05020	TRANSFORMER, 50KVA 7620 120-208, TAP CONV 2 BUSHING	6	EACH		<u>See detailed dimensions below - specifications attached</u>
ZA05048	TRANSFORMER, 50KVA 7620 240-480, TAP CONV 2 BUSHING	9	EACH		<u>See detailed dimensions below - specifications attached</u>
ZA05078	TRANSFORMER, 50KVA 7620 277-480, TAP CONV 2 BUSHING	9	EACH		<u>See detailed dimensions below - specifications attached</u>
	DIMENSIONS FOR 50 KVA TRANSFORMERS				(*) NLRED 50KVA <u>DIMENSIONS: Case H = 33", 42" w/ Bushing, W = 22.5"</u>
	Manufacturer: _____				
	Estimated Delivery: _____				

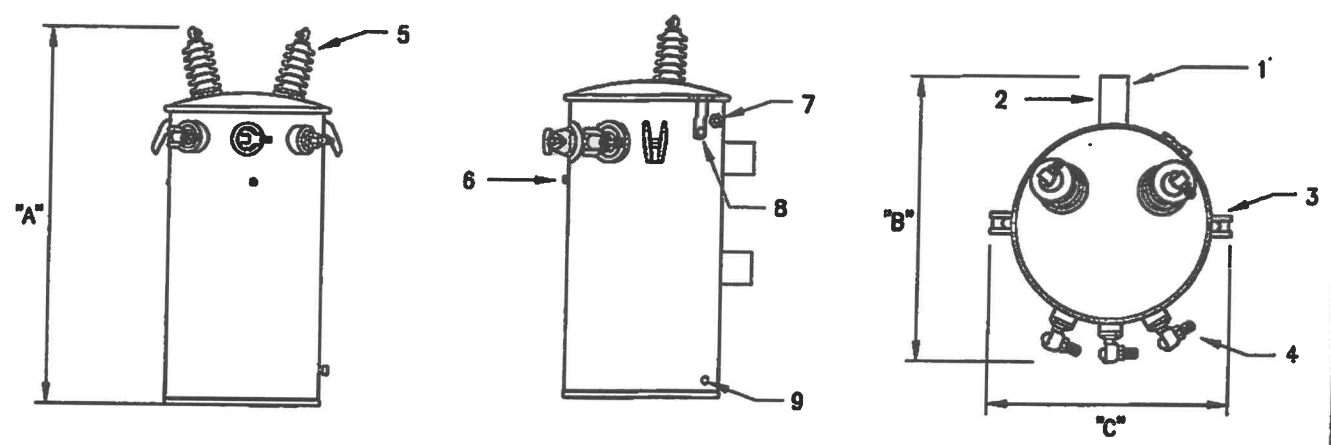


NORTH LITTLE ROCK ELECTRIC DEPARTMENT

SPECIFICATION GUIDE - OVERHEAD TYPE DISTRIBUTION TRANSFORMERS

5KVA - 167KVA

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



H.V.: 7620/13200Y LV.: 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					2
				X			2
5	H.V. BUSHING						2
6	GROUNDING PROVISION						1
7	PRESSURE RELIEF DEVICE						1
8	COVER GROUND STRAP						1
9	TANK GROUNDING PROVISION						1
		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

ORDER CAD FILE: NLR0311.DWG



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

DATE: 10/10/2018	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
-
-

GENERAL TERMS AND CONDITIONS FOR THE CITY OF NORTH LITTLE ROCK, AR

1. When submitting an "Invitation to Bid," the bidder warrants that the commodities covered by the bid shall be free from defects in material and workmanship under normal use and service. In addition, bidder must deliver new commodities of the latest design and model, unless otherwise specified in the "Invitation to Bid."
2. Prices quoted are to be net process, and when an error is made in extending total prices, the City may accept the bid for the lesser amount whether reflected by extension or by the correct multiple of the unit price.
3. Discounts offered will be taken when the City qualifies for such. The beginning date for computing discounts will be the date of invoice or the date of delivery and acceptance, whichever is later.
4. When bidding other than the brand and/or model specified in the "Invitation to Bid," the brand and/or model number must be stated by that item in the "Invitation to Bid," and descriptive literature be submitted with the bid.
5. **REJECTION**
 - A. The City reserves the right to reject any or all Bids, to waive any minor informality or irregularity in any Bid, to negotiate changes and/or modifications with the lowest responsible bidder and to make award to the response deemed to be the most advantageous to the City. Bidders shall be required to comply with all applicable federal, state and local laws.
 - B. The City reserves the right to cancel request for bids without penalty with it is in the best interest of the City. Notice of Cancellation shall be inserted on the City's website (www.nlr.ar.gov).
 - C. Any Bid not conforming to the specifications or requirements set forth by the City in this Bid Request may be rejected.
 - D. Bids may be also rejected if they are made by a Bidder that is deemed un-responsible due to lack of qualifications, capacity, skill, character, experience, reliability, financial stability or quality of services, supplies, materials, equipment or labor.
 - E. The City of North Little Rock reserves the right to reject any and all bids, to accept in whole or in part, to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications in those cases where efficiency of operation will not be impaired, and unless otherwise specified by the bidder, to accept any item in the bid. If unit prices and extensions thereof do not coincide, the City of North Little Rock may accept the bid for the lesser amount whether reflected by the extension or by the correct multiple of the unit price
6. The Purchasing office reserves the right to award items, all or none, or by line item(s).
7. Quality, time and probability of performance may be factors in making an award.
8. Bid quotes submitted will remain firm for 30 calendar days from bid opening date; however, the prices may remain firm for a longer period of time if mutually agreeable between bidder and the Department of Commerce.
9. Bidder must submit a completed signed copy of the front page of the "Invitation to Bid" and must submit any other information required in the "Invitation to Bid."
10. In the event a contract is entered into pursuant to the "Invitation to Bid," the bidder shall not discriminate against any qualified employee or qualified applicant for employment because of race, sex, color, creed, national origin or ancestry. The bidder must include in any and all subcontracts a provision similar to the above.
11. Sales or use tax is not to be included in the bid price, but is to be added by the vendor to the invoice billing to the City. Although use tax is not to be included in this bid, vendors are to register and pay tax direct to the Arkansas State Revenue Department.

12. Prices quoted shall be "Free on Board" (F.O.B.) to destination at designated facility in North Little Rock. Charges may not be added after the bid is opened.
13. In the event of two or more identical low bids, the contract may be awarded arbitrarily or for any reason to any of such bidders or split in any proportion between them at the discretion of the Department of Commerce..
14. Specifications furnished with this Invitation are intended to establish a desired quality or performance level, or other minimum dimensions and capacities, which will provide the best product available at the lowest possible price. Other than designated brands and/or models approved as equal to designated products shall receive an equal consideration.
15. Samples of items when required, must be furnished free, and, if not called for within 30 days from date of bid opening, will become property of the City.
16. Bids will not be considered if they are:
 1. Submitted after the bid's opening time.
 2. Submitted electronically or faxed (unless authorized by Purchasing Agent).
17. Guarantees and warranties should be submitted with the bid, as they may be a consideration in making an award.
18. **CONSTRUCTION**
 - A. Contractor is to supply the City with evidence of having and maintaining proper and complete insurance, specifically Workman's Compensation Insurance in accordance with the laws of the State of Arkansas, Public Liability and Property Damage. All premiums and cost shall be paid by the Contractor. In no way will the City be responsible in case of accident.
 - B. When noted, a Certified check or bid bond in the amount of 5% of total bid shall accompany bid.
 - C. A Performance Bond equaling the total amount of any bid exceeding \$50,000.00 must be provided for any contract for the repair, alteration or erection of any public building, public structure or public improvement (pursuant to Arkansas Code Annotated Section 22-9-203).
19. **LIQUIDATED DAMAGES** – Liquidated damages shall be determined at the time of contract negotiations, based upon the construction contract price and stated time period set for completion of the project. Liquidated damages shall be assessed beginning on the first day following the maximum delivery or completion time entered on this bid form and/or provided for by the plans and specifications.
20. **AMBIGUITY IN BID** - Any ambiguity in any bid as the result of omission, error, lack of clarity or non-compliance by the bidder with specifications, instructions, and all conditions of bidding shall be construed in the light most favorable to the City.
21. The bid number should be stated on the face of the sealed bid envelope. If it is not, the envelope will have to be opened to identify.
22. Whenever a bid is sought seeking a source of supply for a specified period of time for materials and services, the quantities of usage shown are estimated ONLY. No guarantee or warranty is given or implied by the participants as to the total amount that may or may not be purchased from any resulting contracts. These quantities are for the bidders information ONLY and will be used for tabulation and presentation of bid and the participant reserves the right to increase or decrease quantities as required.

23. The City of North Little Rock will follow procedures to check bidder eligibility through the federal System for Award Management (S.A.M.) as outlined in 2 C.F.R. § 200. This will be completed prior to the award of any contract in which federal grant funds will be expended.

24. Additional information or bid forms may be obtained from:

COMMERCE DEPARTMENT, 700 West 29th Street, P.O. Box 5757, North Little Rock, Arkansas 72119 (501)975-8881
www.nlr.ar.gov

Bidding documents must be submitted on or before the bid's opening date and time. Unless noted, bids must be sealed and mailed or delivered to:

**Amy Smith, Purchasing Manager
Commerce Department
700 W. 29th Street, 3rd Floor
North Little Rock, AR 72114**