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December 17, 2022

TO: All Prospective Bidders
FROM: Trent Ensley, Procurement Manager
SUBJECT: **ADDENDUM NO. 2**
PWC2223024 – Single Phase & Three Phase Pad Mount
Distribution Transformers Contract Calendar Year 2023

The Specifications and Bid Documents are hereby modified or clarified per the attached documents.

1. The proposal submission date has been changed from Thursday December 22, 2022, 2:00 PM to Thursday January 5, 2023, 2:45 PM.
2. Material Specifications have been revised for the Three Phase Pad Mount 12 KV and 12X24KV.
3. The bid opening location has been changed to Conference Room 107 inside PWC Administration Building.
4. The foregoing changes or clarifications shall be incorporated in the original Bid Documents and a signed copy of this Addendum No. 2 shall accompany the bid to acknowledge the bidder's receipt and familiarly with the changes and/or clarifications.

TE:tke

Acknowledgement:

Company _____

By _____

Date _____

Public Works Commission
Fayetteville, NC
Electric Systems Division
Material Specification

TRANSFORMER, PAD-MOUNT ,3-PHASE, 12KV

Revision Date: December 16, 2022
Revised By: Glenn Andersen
Page 1 of 2

(Reference Table 4 on Page 2 for PWC Stock Codes, Ratings and Property Types)

Description: Pad mounted, compartmental-type, loop-feed, ONAN, three-phase 60 hertz dual primary voltage Y-Y secondary voltage distribution transformer for use on 12470GRDY/7200 systems under usual service conditions. Unit will be standard side-by-side, primary/ secondary configuration with inside dimensions according to IEEE C57.12.34 Figure 16 with bails with base dimensions of 50"-70" wide and 48"-70" deep for 750 KVA and below, and 72-92" wide and 92" maximum deep for 1000 KVA, 1500 KVA, and 2500 KVA, and will be constructed in general accordance with IEEE C57.12.34.

Efficiency Standard: All transformers supplied shall meet minimum efficiency standards set forth in the Department of Energy (DOE) 2016 Energy Efficiency Standard of the Energy Policy and Conservation Act.

Bushings and Terminals: Six primary bushing wells (H1A,2A,3A) and (H1B,2B,3B) connected internally per IEEE C57.12.34 to accept separable insulated connector bushings/accessories conforming to ANSI/IEEE Standard 386; and conforming to dimensions as shown in Figure 16 in IEEE C57.12.34; eight single-accessory parking stands; Four low-voltage externally clamped spade type terminals (X0,1,2,3) capable of carrying 150 % of full load current as shown in Figure 8(A) and two (2) 2-hole NEMA tank grounding pads/connectors per IEEE C57.12.34.

Accessory Equipment: Transformer will have a gasketed three-phase dual voltage switch within the primary compartment for de-energized selection of 12470GRDY/7200 primary voltage, lifting provisions per IEEE C57.12.34, three oil-immersed rated load break hook-stick operated Bay-O-Net type fuses sized to remove the transformer from the line in case of severe overload and internal faults, a pressure relief device per IEEE C57.12.34, an oil level indicator, oil drain (located in the lower left corner of the primary compartment), fill and sampling provisions, and a standard diagrammatic nameplate with bar coded serial number, PWC Company number and PWC stock number. A duplicate nameplate shall be placed on the outside rear corner of the transformer. Also, install furnished PWC Company number (3.5" x 9" label) on the lower middle of the primary compartment door. A minimum of one (1) handhole large enough to allow replacement of all primary and secondary bushings, or a bolted cover shall be included.

Taps: 1000kVA, 1500kVA, and 2500kVA Transformers shall have straddle taps, two (2) 2.5% above nominal, and two (2) 2.5% below nominal voltage.

Polarity and Terminal Markings: Per IEEE C57.12.70

Oil Preservation: Per IEEE C57.12.34.

Public Works Commission
 Fayetteville, NC
 Electric Systems Division
 Material Specification

TRANSFORMER, PAD-MOUNT, 3-PHASE, 12KV

Revision Date: December 16, 2022
Revised By: Glenn Andersen
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Tank: Domed or peak-roofed carbon steel welded-seam door and tank with primary and secondary compartments, per IEEE C57.12.34, and conforming to enclosure security requirements per IEEE C57.12.28.

Finish: Wash, primer, and Munsell 7GY 3.29/1.5 Green baked powder finish coat(s) in accordance with IEEE C57.12.28.

Performance Standards: (Per IEEE C57.13.6)

Rated capacity: Per IEEE C57.12.00 (Design Test)
 Basic Impulse Level: 95/30 kV Primary/Secondary (Design Test)
 Tests: Successful completion of routine tests per IEEE C57.12.00

Delivery Standards: Transformers will be securely strapped to pallets and delivered FOB destination as directed by PWC Warehouse personnel. All transformers shall be accompanied by certified test results in IEEE C57.12.37 format (comma delimited or Excel spreadsheet) electronically and sent to Elbert.Norris@faypwc.com in accordance with PWC Apparatus Shop Specifications. Transformers should be shipped on open-body trailers to be unloaded by crane, line truck or forklift from trailer side. PWC Warehouse personnel will be notified 24 hours in advance of delivery (910-223-4351)

Table 4						
Stock Code	Type	KVA	Primary (kV)	Primary/Secondary BIL (kV)	Secondary (V)	PROPERTY TYPE
1-295-660	3-PHASE, PAD	150	12.47	95/30	208/120	41168
1-295-700	3-PHASE, PAD	300	12.47	95/30	208/120	41568
1-295-720	3-PHASE, PAD	500	12.47	95/30	208/120	41768
1-295-737	3-PHASE, PAD	750	12.47	95/30	208/120	41868
1-295-665	3-PHASE, PAD	150	12.47	95/30	480/277	41171
1-295-705	3-PHASE, PAD	300	12.47	95/30	480/277	41571
1-295-725	3-PHASE, PAD	500	12.47	95/30	480/277	41771
1-295-740	3-PHASE, PAD	750	12.47	95/30	480/277	41871
1-295-750	3-PHASE, PAD	1000	12.47 w/Taps	95/30	480/277	41971
1-295-765	3-PHASE, PAD	1500	12.47 w/Taps	95/30	480/277	42071
1-295-786	3-PHASE, PAD	2500	12.47 w/Taps	95/30	480/277	42171

Specification reviewed by: _____

Public Works Commission
Fayetteville, NC
Electric Systems Division
Material Specification

TRANSFORMER, PAD-MOUNT, 3-PHASE, 12X24KV

Revision Date: December 16, 2022
Revised By: Glenn Andersen
Page 1 of 2

(Reference Table 3 on Page 2 for PWC Stock Codes, Ratings and Property Types)

Description: Pad mounted, compartmental-type, loop-feed, ONAN, three-phase 60 hertz dual primary voltage Y-Y secondary voltage distribution transformer for use on 12470GRDY/7200 or 24940GRDY/14400 Volt systems under usual service conditions. Unit will be standard side-by-side, primary/secondary configuration with inside dimensions according to IEEE C57.12.34 Figure 16 with bails with base dimensions of 50"-70" wide and 48"-70" deep for 750 KVA and below, and 72-92" wide and 92" maximum deep for 1000 KVA, 1500 KVA, and 2500 KVA, and will be constructed in general accordance with IEEE C57.12.34.

Efficiency Standard: All transformers supplied shall meet minimum efficiency standards set forth in the Department of Energy (DOE) 2016 Energy Efficiency Standard of the Energy Policy and Conservation Act.

Bushings and Terminals: Six primary bushing wells (H1A,2A,3A) and (H1B,2B,3B) connected internally per IEEE C57.12.34 to accept separable insulated connector bushings/accessories conforming to ANSI/IEEE Standard 386; and conforming to dimensions as shown in Figure 16 in IEEE C57.12.34; eight single-accessory parking stands; Four low-voltage externally clamped spade type terminals (X0,1,2,3) capable of carrying 150 % of full load current as shown in Figure 8(A) and two (2) 2-hole NEMA tank grounding pads/connectors per IEEE C57.12.34.

Accessory Equipment: Transformer will have a gasketed three-phase dual voltage switch within the primary compartment for de-energized selection of 12470GRDY/7200 or 24940GRDY/14400 primary voltage, lifting provisions per IEEE C57.12.34, three oil-immersed rated load break hook-stick operated Bay-O-Net type fuses sized to remove the transformer from the line in case of severe overload and internal faults, a pressure relief device per IEEE C57.12.34, an oil level indicator, oil drain (located in the lower left corner of the primary compartment), fill and sampling provisions, and a standard diagrammatic nameplate with bar coded serial number, PWC Company number and PWC stock number. A duplicate nameplate shall be placed on the outside rear corner of the transformer. Also, install furnished PWC Company number (3.5" x 9" label) on the lower middle of the primary compartment door. A minimum of either one (1) handhole large enough to allow replacement of all primary and secondary bushings, or a bolted cover shall be included.

Polarity and Terminal Markings: Per IEEE C57.12.70

Oil Preservation: Per IEEE C57.12.34.

Tank: Domed or peak-roofed carbon steel welded-seam door and tank with primary and secondary compartments, per IEEE C57.12.34, and conforming to enclosure security requirements per IEEE C57.12.28.

**Public Works Commission
Fayetteville, NC
Electric Systems Division
Material Specification**

TRANSFORMER, PAD-MOUNT, 3-PHASE, 12X24KV

**Revision Date: December 16, 2022
Revised By: Glenn Andersen
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Finish: Wash, primer, and Munsell 7GY 3.29/1.5 Green baked powder finish coat(s) in accordance with IEEE C57.12.28.

Performance Standards: (Per IEEE C57.13.6)

Rated capacity: Per IEEE C57.12.00 (Design Test)
Basic Impulse Level: 125/30 kV Primary/Secondary (Design Test)
Tests: Successful completion of routine tests per IEEE C57.12.00

Delivery Standards: Transformers will be securely strapped to pallets and delivered FOB destination as directed by PWC Warehouse personnel. All transformers shall be accompanied by certified test results in IEEE C57.12.37 format (comma delimited or Excel spreadsheet) electronically and sent to Elbert.Norris@faypwc.com in accordance with PWC Apparatus Shop Specifications. Transformers should be shipped on open-body trailers to be unloaded by crane, line truck or forklift from trailer side. PWC Warehouse personnel will be notified 24 hours in advance of delivery (910-223-4351)

Table 3

Stock Code	Type	KVA	Primary (kV)	Primary/Secondary BIL (kV)	Secondary (V)	PROPERTY TYPE
1-295-670	3-PHASE, PAD	150	12.47 X 24.94	125/30	208/120	41172
1-295-701	3-PHASE, PAD	300	12.47 X 24.94	125/30	208/120	41572
1-295-721	3-PHASE, PAD	500	12.47 X 24.94	125/30	208/120	41772
1-295-747	3-PHASE, PAD	750	12.47 X 24.94	125/30	208/120	41872
1-295-677	3-PHASE, PAD	150	12.47 X 24.94	125/30	480/277	41125
1-295-706	3-PHASE, PAD	300	12.47 X 24.94	125/30	480/277	41525
1-295-732	3-PHASE, PAD	500	12.47 X 24.94	125/30	480/277	41725
1-295-741	3-PHASE, PAD	750	12.47 X 24.94	125/30	480/277	41825
1-295-755	3-PHASE, PAD	1000	12.47 X 24.94	125/30	480/277	41925
1-295-770	3-PHASE, PAD	1500	12.47 X 24.94	125/30	480/277	42025
1-295-785	3-PHASE, PAD	2500	12.47 X 24.94	125/30	480/277	42125

Specification reviewed by: _____