



**REQUEST FOR BID  
 BID NUMBER 220807**

**ADDENDUM NO. 4**

Date: August 18, 2022  
 Re: FORKS SUBSTATION TRANSFORMER  
 To: ALL PROSPECTIVE BIDDERS

This Addendum No. 4 forms a part of the Contract Documents and modifies the original bidding documents dated July 27, 2022. This Addendum is issued to clarify, revise, add to, or delete from the original bidding documents. Bidders shall determine the work affected by the Addendum items.

This Addendum consists of:

**CLARIFICATIONS AND ANSWERS TO QUESTIONS**

- 1.) In SECTION III- Specification, paragraph 3, seen in customer specs below, the unit is ONAN/ONAF/ONAF and from paragraph 2, the temp rise is 55°C. However, the hot spot 80°C is normally for 65°C rise. Please confirm the temp rise – 55 or 65. Also the rating is not per ANSI. Per ANSI these ratings will be 10/13.3/16.67. What is the max KVA that you need?

**2. TYPE**

Three-phase, outdoor, 60 Hertz, oil-immersed 55°C average winding temperature rise, 80°C hot spot winding temperature rise, rated for elevation up to 3,300 feet. The unit shall be shipped with oil. Provision shall be made for the carrier to deliver on a weekday Monday through Thursday, from 8:30 a.m. to 3:30 p.m., except for District-recognized holidays, and arrival date must be specified two (2) weeks prior to arrival.

**3. RATING**

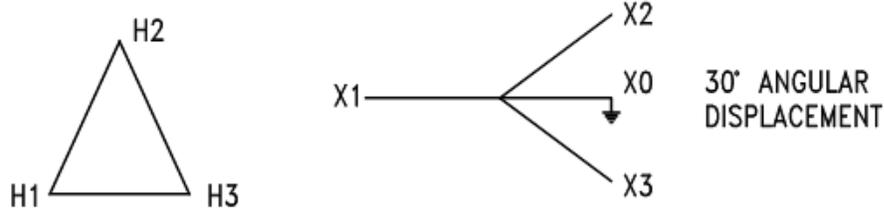
Number of Phases	Three (3)
Coolant	Oil
Frequency	60 Cycle
Capacity:	
Self-Cooled - 55°C Rise	10,000 kVA
First Stage Forced-Cooled	12,000 kVA
Second Stage Forced-Cooled	14,000 kVA

**Basic ratings should be based on 55°C rise.  
 We didn't set a maximum KVA needed, we're targeting a minimum 10MVA.**

- 2.) Please explain the Withstand requirement table.  
**SEE BELOW revised table**

6. **WITHSTAND REQUIREMENTS FOR WHICH WINDING INSULATION SHALL BE DESIGNED**

	Terminal H <sub>1</sub> , H <sub>2</sub> , H <sub>3</sub>	Terminal H <sub>0</sub>	Terminal X <sub>1</sub> , X <sub>2</sub> , X <sub>3</sub>	Terminal X <sub>0</sub>
a. Full wave impulse	350	NA	110	110
b. Chopped wave impulse	400		130	130
c. One-minute app. pot.	140		34	34



d. 7200-cycle ind. pot. L-G	140		34	
e. 7200-cycle ind. pot. L-L	140		34	

- 3.) In SECTION III- Specifications, paragraph 4, there is no DETC required, is this correct?  
**CORRECT, we did not require DETC for the transformer**
- 4.) In SECTION III- Specifications, paragraph 11, do suppliers need to provide a 11kV/450kV BIL bushing? The creepage 72" mentioned in the spec can be met by using 69kV Standard ANSI bushing. The creepage for 69kV/350kV BIL ANSI bushing is 75.3".  
**Yes, it should be 350kV bushings, not 450kV**
- 5.) Is an alternative drying method allowed?  
**Refer to SECTION I- Notice & Instructions to Bidder, part 11, and also SECTION II- Proposal, part 5.**
- 6.) Can the bid due date be extended another 2 weeks?  
**No, the bid due date will not be extended further.**
- 7.) Please define the design ambient conditions for the requested transformers.
- According to ANSI/IEEE reference standard, for 55°C average winding temperature rise corresponds 65°C hot spot winding temperature rise. Please confirm.
  - Please confirm that the impedance of 8.5% requested is based at ONAN rating 10 MVA, not 12 MVA as indicated in specifications paragraph 3.
  - Please confirm if the transformer shall have a dual 55/65°C rating, with 65°C rating being 11.2/13.44/15.7 MVA (+12% of 55°C rating).
  - Withstand voltages shall be according to ANSI/IEEE C57.12.00 table 3 (see below), as the values indicated in paragraph 6 of the specifications don't correlate. Please confirm.

**Ratings are based on 55C.**

**The hotspot temp is defined as 80 for both 55 and 65 in the specs.**

**Correct, the ONAN rating is 10MVA minimum.**

**There is not a hard requirement for dual 55/65 rating.**

**Yes, we would accept the withstand tests from the table**

**Table 3—Dielectric insulation levels for distribution and Class I power transformers, voltages in kV**

Maximum system voltage (kV rms)	Nominal system voltage <sup>a, g</sup> (kV rms)	Applied-voltage test <sup>f</sup> (kV rms)			Induced-voltage test <sup>b, f</sup> (phase to ground) (kV rms)	Winding line-end BIL <sup>c, f</sup> (kV crest)			Neutral BIL <sup>d, e, h</sup> (kV crest)	
		Delta or fully insulated wye	Grounded wye	Impedance grounded wye or grounded wye with higher BIL		Minimum	Alternates	Grounded wye	Impedance grounded wye or grounded wye with higher BIL	
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11
<b>Class I power transformers</b>										
1.5	1.2	10	10	10	1.4	30	45		45	45
3.5	2.5	15	15	15	2.9	45	60		60	60
6.9	5	19	19	19	5.8	60	75		75	75
11	8.7	26	26	26	10	75	95		95	95
17	15	34	26	34	17	95	110		95	110
26	25	50	26	40	29	150			95	125
36	34.5	70	26	50	40	200			95	150
48	46	95	34	70	53	200	250		110	200
73	69	140	34	95	80	250	350		110	250

This addendum consists of three (3) pages. **THIS ADDENDUM SHEET MUST BE ACKNOWLEDGED AND INCLUDED WITH ANY BID SUBMITTED.**

Addendum No. 4 acknowledged by:

Firm: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Typed or Printed)

Title: \_\_\_\_\_

Date: \_\_\_\_\_