



ADDENDUM NO. 1

HURON PUBLIC POWER
NEW SUBSTATION TRANSFORMER

February 10, 2023

The Procurement Manual for the above project dated January 18, 2023 is hereby added to, amended and clarified as follows. This Addendum shall become a part of the Contract Documents.

Attached is a list of questions from bidders and answers provided for reference to all bidders.

Note: The new transformer will differ from existing in that three internal current transformers are required on each high voltage bushing as specified in Section 261213. The existing transformers have two as shown on attached nameplates.

Attachments to this Addendum:

List of bidder questions and answers.
Existing transformer nameplates.

END OF ADDENDUM NO. 1

BIDDER QUESTIONS - NEW HPP SUBSTATION TRANSFORMER

<i>QUESTION</i>	<i>ANSWER</i>
<p>Is this new unit a direct replacement and does it have to fit on an existing pad and parallel the Niagara units? Are there any dimension restraints?</p> <p>Please provide the nameplate for the existing units at the substation.</p>	<p>The new transformer is in addition to the existing and will be set on a new pad. The exact pad location will be determined after the new transformer is purchased and can be arranged to accommodate the dimensions of the new transformer. The high and low voltage bushings, however, must be located in the ANSI segments given in the specifications.</p> <p>Attached is the nameplate for the existing transformers.</p>
<p>Can mineral oil be quoted as an option for FR3 fluid?</p>	<p>No. Only FR3 shall be quoted.</p>
<p>Can transformer be tested with mineral oil and then filled with FR3 at site?</p>	<p>The intent of the specifications is to have a transformer furnished with 100% FR3 fluid. If transformer is tested with other oil, it is not possible to completely remove it and a residue will remain, particularly in the insulating paper. This will eventually leach out into the FR3 fluid reducing the benefits of 100% FR3 fluid by reducing flash point and positive effect of FR3 on insulation life.</p> <p>The transformer cooling system is to be designed and tested to meet specified performance with FR3 fluid.</p>



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(716) 896-6500
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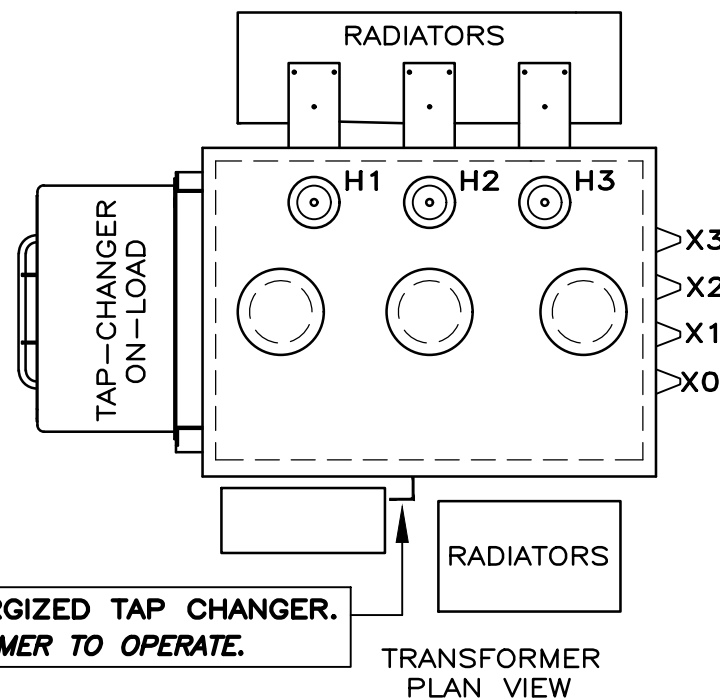
SERIAL NO. _____
DATE OF MANUFACTURE: _____
MADE IN U.S.A.

LOAD-TAP-CHANGING TRANSFORMER

MVA: 15/20/25
CLASS: KNAN/KNAF/KNAF 65°C RISE 3 PHASE 60 Hz
HV: 69000 Δ 350 kV BIL
LV: 12470Y/7200 110 kV BIL

- IMPEDANCE _____ % AT 15 MVA & 69000 VOLTS.
- TANK DESIGNED FOR +10, -14.7 PSI (+517, -760 mm Hg).
- TRANSFORMER IS DESIGNED FOR OPERATION BETWEEN THE POSITIVE PRESSURE LIMIT OF 7.7 PSI (MAXIMUM) AND NEGATIVE PRESSURE LIMIT OF 4.3 PSI (MINIMUM).
- THE TRANSFORMER AND LTC TANKS HAVE A PRESSURE RELIEF DEVICE RATED FOR 10 PSI.
- THE TRANSFORMER TANK AND THE LTC TANK ARE DESIGNED TO WITHSTAND COMPLETE VACUUM INDIVIDUALLY OR TOGETHER. WHILE VACUUM IS APPLIED TO EITHER ONE, THE PRESSURE IN THE OTHER MUST NOT BE GREATER THAN ATMOSPHERIC PRESSURE.
- LIQUID LEVEL IS 15.38 IN. BELOW TOP OF MANHOLE FLANGE AT 25°C. LIQUID LEVEL CHANGES 0.75 IN. PER 10°C CHANGE IN LIQUID TEMPERATURE.
- TRANSFORMER AND ON-LOAD TAP-CHANGER ARE FILLED WITH FR3 ENVIROTEMP FLUID CONTAINING NO DETECTABLE LEVEL OF PCB (LESS THAN 1 PPM) AT TIME OF MANUFACTURE.
- ALL WINDING MATERIAL IS COPPER.
- READ INSTRUCTION BOOK 600 BEFORE HANDLING, INSTALLING AND ENERGIZING TRANSFORMER.
- MAIN UNIT UNTANKING HEIGHT IS APPROX. (225") NOT INCLUDING SLINGS AND CRANE.

APPROXIMATE MASS IN LBS.	
MAIN CORE & COILS	39513
PREVENTIVE AUTO CORE & COILS	1665
SERIES CORE & COILS	4322
TANK & FITTINGS	24559
REMOVABLE RADIATORS	12941
LIQUID IN MAIN TANK 4267 USG	32853
LIQUID IN RADIATORS 450 USG	3471
LIQUID IN LOAD-TAP-CHANGER 268 USG	2064
TOTAL MASS	121388
TOTAL LIQUID VOLUME 4985 USG	38388
UNTANKING MASS (MAIN, OIL SOAKED)	43470



LV WINDING ON-LOAD TAP CHANGER POSITION, VOLTAGES & CURRENTS OLTC: REINHAUSEN TYPE RMV-II 1500-15/25						
POSITION	P1 ON	P4 ON	R ON	LOW VOLTAGE	AMPS AT 15 MVA	AMPS AT 25 MVA
16R	11	11	B	13717	631.4	1052.3
15R	10	11		13639	635.0	1058.3
14R	10	10		13561	638.6	1064.3
13R	9	10		13483	642.3	1070.5
12R	9	9		13405	656.0	1076.7
11R	8	9		13327	649.8	1083.0
10R	8	8		13249	653.6	1089.4
9R	7	8		13171	657.5	1095.8
8R	7	7		13094	661.4	1102.4
7R	6	7		13016	665.4	1109.0
6R	6	6		12938	669.4	1115.6
5R	5	6		12860	673.4	1122.4
4R	5	5		12782	677.5	1129.2
3R	4	5		12704	681.7	1136.2
2R	4	4		12626	685.9	1143.2
1R	M	4		12548	690.2	1150.3
N	M	M	12470	694.5	1157.5	
1L	11	M	A	12392	698.9	1164.8
2L	11	11		12314	703.3	1172.1
3L	10	11		12236	707.8	1179.6
4L	10	10		12158	712.3	1187.2
5L	9	10		12080	716.9	1194.8
6L	9	9		12002	721.5	1202.6
7L	8	9		11924	726.3	1210.4
8L	8	8		11847	731.0	1218.4
9L	7	8		11769	735.9	1226.5
10L	7	7		11691	740.8	1234.6
11L	6	7		11613	745.8	1242.9
12L	6	6		11535	750.8	1251.3
13L	5	6		11457	755.9	1259.8
14L	5	5		11379	761.1	1268.5
15L	4	5		11301	766.3	1277.2
16L	4	4		11223	771.7	1286.1

DE-ENERGIZED TAP CHANGER		CONTINUOUS CURRENT RATING: 400A				
WARNING: DE-ENERGIZE TRANSFORMER TO OPERATE TAP CHANGER						
TAP POSITION	A	B	C	D	E	
CONNECTS	T5-T6	T4-T5	T3-T4	T2-T3	T1-T2	
VOLTAGE	72450	70725	69000	67275	65550	
AMPS AT 15 MVA	119.5	122.5	125.5	128.7	132.1	
AMPS AT 25 MVA	159.4	204.1	209.2	214.6	220.2	

CNL36741-1 Rev2

NOTES:

1. NAMEPLATE MATERIAL .025" THICK STAINLESS STEEL, SATIN FINISH. ALL ETCHING IN BLACK.
2. DATE OF MANUFACTURE, SERIAL NO. AND MEASURED VALUE FOR IMPEDANCE WILL BE STAMPED ON NAMEPLATE WHEN UNIT IS COMPLETE.
JOB NO. N36741; SERIAL NO. N36741
JOB NO. N36742; SERIAL NO. N36742

0.144" DIA, 6 HOLES PER PLATE

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PROJECTION: DIMENSIONS IN INCHES UNLESS NOTED OTHERWISE.

REVISIONS
Rev. 1 MT 6/21/18
-Revised weights and gallons of liquid.
Rev. 2 JK 7/17/18
-Revised weights and gallons of liquid.
-Updated notes and pressures.

NIAGARA CUSTOMER:	PEPCO
CUSTOMER P.O. NO.	S100816327
PROJECT NAME:	CITY OF HURON
NIAGARA JOB No.:	N36741 & N36742
REFERENCE DRAWINGS:	TRANSFORMER OUTLINE DXL36741 SCHEMATIC & WIRING DIAGRAM DWL36741

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TRANSFORMER NAMEPLATE

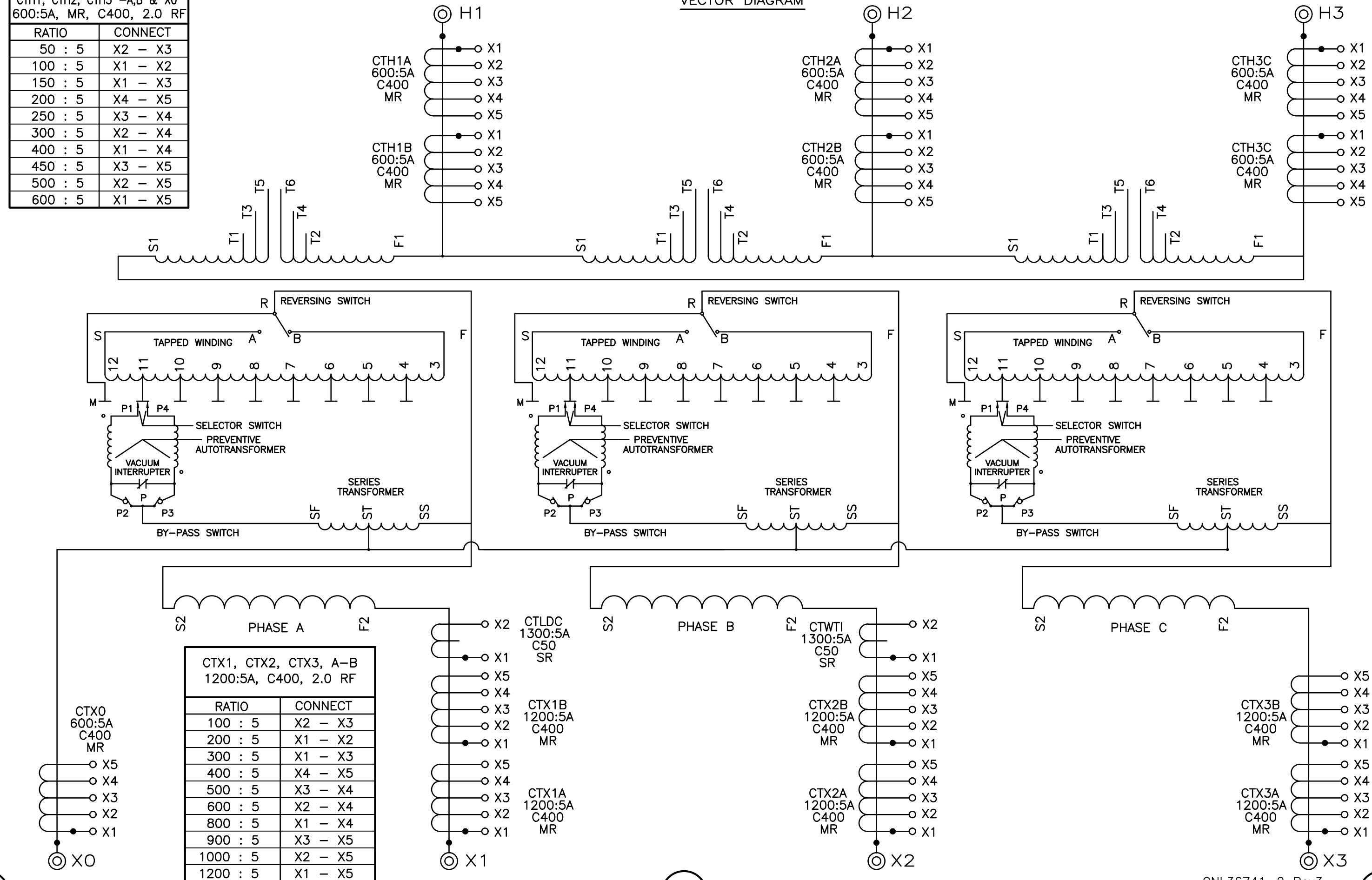
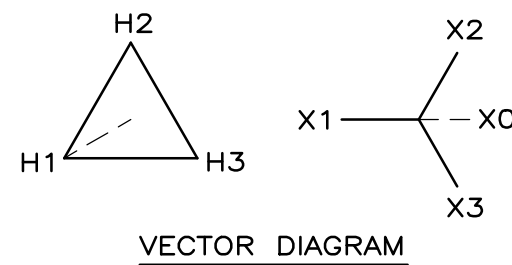
Dr: MT Date: 5/17/18 Dwg No: CNL36741-1 Rev: 2
Ck: EP Scale: 1:1

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SERIAL NO. _____
 DATE OF MANUFACTURE: _____
 MADE IN U.S.A.

CTH1, CTH2, CTH3 -A,B & X0 600:5A, MR, C400, 2.0 RF	
RATIO	CONNECT
50 : 5	X2 - X3
100 : 5	X1 - X2
150 : 5	X1 - X3
200 : 5	X4 - X5
250 : 5	X3 - X4
300 : 5	X2 - X4
400 : 5	X1 - X4
450 : 5	X3 - X5
500 : 5	X2 - X5
600 : 5	X1 - X5



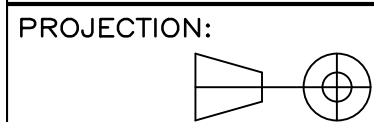
CTX1, CTX2, CTX3, A-B 1200:5A, C400, 2.0 RF	
RATIO	CONNECT
100 : 5	X2 - X3
200 : 5	X1 - X2
300 : 5	X1 - X3
400 : 5	X4 - X5
500 : 5	X3 - X4
600 : 5	X2 - X4
800 : 5	X1 - X4
900 : 5	X3 - X5
1000 : 5	X2 - X5
1200 : 5	X1 - X5

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DIMENSIONS IN INCHES UNLESS NOTED OTHERWISE.

REV.1 MT 5/29/17
 -Added Series Transformer to schematic
 -Relocated C.T. chart and Vector Diagram

REV.2 JK 7/17/18
 -Updated CTLD and CTWT rating, was 1200:5A.
 -CTX0 was shown as CTX1A.

REV.3 JK 9/28/18
 -Revised series leads, SS was to post P and SF was to post R.

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TRANSFORMER NAMEPLATE

Dr: MT	Date: 5/17/18	Dwg No:	Rev:
Ck: EP	Scale: 1:1	CNL36741-2	3