DIS-TRAN Packaged Substations

GENERATION SUBSTATION
Rensselaer Municipal Electric Utility

Rensselaer, IN

Origination Date:
Material List No: ML-4676
Revision Number: 2
Revision Date 11/21/2012
Sheet Number: 1 of 4

ITEM	QTY.	DESCRIPTION	MFG.	TYPE OR CAT. NO.
		69KV GALVANIZED STEEL STRUCTURES		
A	1	69KV "H" FRAME DEADEND STRUCTURE, SINGLE BAY, 40'-0" CONDUCTOR PULL-OFF HEIGHT, FROM GRADE -PROVISIONS FOR INSULATORS AND ARRESTERS -PROVISIONS FOR FLOODLIGHTS	DIS-TRAN ST	
B	2	55 FT. STATIC POLE -PROVISIONS FOR (2) 400W MH FLOODLIGHTS	DIS-TRAN ST	
C	1	69KV BUS SUPPORT, 3-PHASE, 22' 6" BUS HEIGHT FROM GRADE	DIS-TRAN	
D	1	69KV SWITCH STAND, 3 PHASE, 22'-6" BUS HEIGHT FROM GRADE	DIS-TRAN	
E	3	69KV BUS SUPPORT STAND, SINGLE PHASE, 16'-6" BUS HEIGHT FROM GRADE	DIS-TRAN	
F	3	69KV SWITCH STAND, 3 PHASE, 16'-6" BUS HEIGHT FROM GRADE	DIS-TRAN	
G	1	69KV, 3-PHASE TRANSFORMER JUMPER SUPPORT (BUS SUPPORT) 16' 6" BUS HEIGHT FROM GRADE	DIS-TRAN	
		15KV GALVANIZED STEEL STRUCTURES		
H	1	15KV POTENTIAL TRANSFORMER STAND, 3 PHASE -PROVISIONS FOR FUSES AND INSULATORS	DIS-TRAN	
I	1	15KV DISTRIBUTION STRUCTURE, SINGLE BAY -PROVISIONS FOR: SWITCHES, FUSE CUTOUT, HOOKSTICK -SWITCHES, FUSE CUTOUT, HOOKSTICK SWITCHES	DIS-TRAN	
J	2	15KV TERMINATOR STRUCTURE, 3 PHASE, 10'-0" STRUCTURE HEIGHT -PROVISIONS FOR ARRESTERS AND TERMINATORS	DIS-TRAN	
K	1	15kV SWITCH STAND, 3 PHASE	DIS-TRAN	
AB1	LOT	ANCHOR BOLTS, COMPLETE WITH (2) NUTS AND (2) FLATWASHERS	DIS-TRAN	
L	5	SWITCH OPERATOR PLATFORM, 6 FT. X 4 FT., BAR GRATING 1 1/2"	DIS-TRAN	
M	LOT	GALVANIZED EQUIPMENT MOUNTING BOLTS	T.F.	
N	LOT	SET OF (4) STAINLESS STEEL TERMINAL BOLTS,NUTS & WASHERS WITH BELLEVILLE WASHERS	T.F.	
		69KV MAJOR EQUIPMENT		
1	3	INTERMEDIATE CLASS METAL OXIDE SURGE ARRESTER, 48 MCOV, ANSI 70 GRAY, POLYMER, WITH 4 HOLE NEMA PAD	OHIO BRASS	PVI-3000483002
2	15	STATION POST INSULATOR, 69KV, 350KV BIL, TR-278,GRAY -(3 SPARES)	NEWELL	41530-7001
3	4	69KV, 1200 AMP, 350KV BIL, 61KA MOM, 3 PHASE, ALUMINUM GROUP OPERATED, VEE TYPE, SIDE BREAK SWITCH, COMPLETE WITH: A. TR-278 STATION POST INSULATORS, SHIPPED ASSEMBLED B. MANUAL SWING HANDLE OPERATOR	USCO	AGCH5V-07212-SIP5278AHSH

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		15KV MAJOR EQUIPMENT		
4	3	15KV POTENTIAL TRANSFORMER,110KV BIL, DRY TYPE A. TYPE: VOY-11 B. CONNECTION TYPE: LINE TO LINE C. PRIMARY VOLTAGE: 7200/12470Y VOLTS D. SECONDARY VOLTAGE: 120 E. METERING ACCURACY: 0.3 Y F. RVF: 1.1 G. THERMAL RATING: 1500 H. FREQUENCY: 60 I. RATIO: 60:1	ABB	E-7525A23G05
5	4	FUSE CUTOUTS, 100AMP	COOPER	TYPE L - L4B1P1A
6	5	15KV POWER FUSE UNIT, 3 AMP, POSITROL -(2 SPARES)	S&C	64003
7	2	15KV POWER FUSE UNIT, 10 AMP, SMU-20 (1 SPARE)	S&C	612010
8	6	15KV, 1200 AMP, 110KV BIL, 61KA MOM, SINGLE PHASE, COPPER HOOKSTICK OPERATED DISCONNECT SWITCH, STATION STYLE A. TR-205 STATION POST INSULATORS B. TINNED TERMINAL PADS	USCO	HH6-01512-SIP3205N
9	3	15KV, 2000 AMP, 110KV BIL, 100KA MOM, SINGLE PHASE, COPPER HOOK OPERATED, STATION STYLE, DISCONNECT SWITCH, COMPLETE WITH: A. TR-205 STATION POST INSULATORS, GRAY B. TINNED TERMINAL PADS	USCO	HH6-01520-SIP3205N
10	1	15KV, 2000 AMP, 110KV BIL, 100KA MOM, 3 PHASE, GROUP OPERATED, ALUMINUM VEE SWITCH, COMPLETE WITH: A. TR-205 STATION POST INSULATORS, GRAY B. MANUAL SWING HANDLE OPERATOR	USCO	AGCH5V-01520-SIP3205AHSH
11	6	15KV CABLE TERMINATOR, OUTDOOR TYPE, 500 MCM COPPER CABLE, 4 HOLE LUG TERMIANL	MID STATE	TFT-152R-SG
12	6	INTERMEDIATE CLASS METAL OXIDE SURGE ARRESTER 8.4 MCOV, ANSI 70 GRAY, POLYMER WITH STANDARD CLAMP	OHIO BRASS	PVI - 3000093001
		69KV BUS AND BUS MATERIALS		
13	195	RIGID BUS PIPE, ALUMINUM, 4" DIA. NPS, SCH 40, 6063-T6, ASTM B241, 53% IACS CONDUCTIVITY, 3.733PLF, 25KSI YIELD STRENGTH, (3) 30'-0" JOINTS (3) 35'-0" JOINTS	WILLIAMS M	
14	195	795 MCM ACSR, 26/7 STRAND, CODE NAME "DRAKE" -FOR DAMPENING	AWG	
15	6	BUS SUPPORT CLAMP, 4" IPS ALUM TUBING TO 5" B.C., HOOK-ON TYPE, WELDED	SEFCOR	ASWH-64-5-SE
16	6	BUS SUPPORT CLAMP, 477 MCM ACSR TO 5" B.C., BOLTED	SEFCOR	AVCA-24-5
17	6	TERMINAL, 4" IPS ALUM TUBING TO 4 HOLE PAD, WELDED	SEFCOR	WFTOC-64-4B

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17A	3	TERMINAL, 4" IPS ALUM TUBING TO 4 HOLE PAD, WELDED, EXPANSION, CENTERFORMED	SEFCOR	WFXTC-V-64-4B
18	125	477 MCM ACSR, 26/7 STRAND, CODE NAME "HAWK"	AWG	
19	27	COMPRESSION TERMINAL, 477 MCM ACSR TO 4 HOLE PAD, 26/7 STRAND	SEFCOR	AL-858-4A
21	30	4/0 ACSR CABLE, 6/1 STRAND, CODE NAME "PENGUIN"	AWG	
22	6	COMPRESSION TEE CONNECTOR, 477 MCM ACSR TO 4 HOLE PAD	SEFCOR	ATCF-858-4A
23	6	COMPRESSION TERMINAL, 4/0 ACSR TO 4 HOLE PAD	SEFCOR	AL-563-4A
24	40	RIGID BUS PIPE, ALUMINUM, 1.5" DIA. NPS, SCH 40, 6063-T6, ASTM B241, 53% IACS CONDUCTIVITY, 0.94PLF, 25KSI YIELD STRENGTH, (2) 20' JOINTS (FOR A-TAPS)	WILLIAMS M	
25	3	VEE CONNECTOR, 4" IPS ALUM TUBING TO 1 1/2" IPS ALUM TUBING, 15 DEGREE, WELDED (FOR A-TAPS)	SEFCOR	WFVT15-6453
26	6	TEE CONNECTOR, 4" IPS ALUM TO 1 1/2" ALUM, 15 DEGREE, WELDED	SEFCOR	WFTT15-6453
26A	3	END PLUG, 4" IPS ALUMINUM	SEFCOR	DP-64-AL
		15KV BUS AND BUS MATERIALS		
27	16	COMPRESSION TERMINAL, 4/0 AAC TO 4-HOLE PAD	SEFCOR	AL-528-4A
28	24	TERMINAL, (2) 954 MCM AAC TO 4 HOLE 4" WIDE PAD, WELDED	SEFCOR	WFC2-34-4B
28A	12	CABLE SPACER FOR (2) 954 MCM ACSR CABLES, 6" SPACING	SEFCOR	ASPC-34-6
29	45	4/0 AAC, 7 STRAND, CODE NAME "OXLIP"	AWG	
30	195	UABC, 4" X 4" X 1/4" -(3) 30'-0" PIECES -(3) 35'-0" PIECES	WILLIAMS M	
31	150	954 MCM AAC, 37 STRAND, CODE NAME "MAGNOLIA"	AWG	
32	12	WELDED TERMINAL, 954 MCM ACSR TO 4 HOLE PAD,	SEFCOR	WFC-34-4B
34	27	STATION POST INSULATOR, 15KV, 110KV BIL, TR 205 (3 SPARES)	NEWELL	231002-7001
		STATIC PROTECTION		
35	130	CABLE, ALUMOWELD 7#6	AWG	
36	4	IRON DEADEND STRAIN CLAMP, QUADRANT TYPE, FOR 7#6 ALUMOWELD	SEFCOR	FQD-65
37	4	ANCHOR SHACKLE, 5/8" PIN	SEFCOR	AH-1219
37A	2	PARALLEL CONNECTOR, 7#6 ALUMOWELD, TINNED	SEFCOR	PL-52-SND

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		ABOVE GRADE GROUNDING		
38	350	4/0 COPPER CABLE, 19 STRAND, S.D.	AWG	
39	80	GROUND CLAMP, 2 PIECE, 1 CONDUCTOR, 4/0 STR COPPER, WITH GALVANIZED STEEL HARDWARE	AEC	GC141AG2
40	35	GROUND CLAMP, 2 PIECE, 2 CONDUCTOR, 4/0 COPPER, WITH GALVANIZED STEEL HARDWARE	AEC	GC143AG2
41	18	TERMINAL, 4/0 COPPER TO 2 HOLE PAD, BOLTED	SEFCOR	FNCT-12-2B
42	2	GROUND CLAMP, 2-3/8 O.D. TO 4/0 CU. CABLE	SEFCOR	1-OC-2751
43	2	TERMINAL, 4/0 CU. TO 4-HOLE PAD, TINNED	SEFCOR	FNCT-12-4A-SND
		GENERATION BELOW GRADE AND FENCE GROUNDING		
50	2200	40% DEAD SOFT ANNEALED, 19 NO.9 AWG (4/0 CU EQUIVALENT), COPPER CLAD CONDUCTOR	GROUNDSM	M49114F/00
51	560	#2 COPPER CABLE, 7 STRAND, SOFT DRAWN	AWG	
52	30	COPPERBONDED GROUND ROD 5/8" X 10'	ERICO	615800
53	2	MOLD, CROSS TYPE, 4/0 COPPER TO 4/0 COPPER	CADWELD	XBQ2Q2Q
54	40	CARTRIDGE #250	CADWELD	250
55	2	MOLD, TEE TYPE, 4/0 COPPER TO 4/0 COPPER	CADWELD	TAC2Q2Q
56	25	CARTRIDGE #150	CADWELD	150
57	2	MOLD, 1" GROUND ROD TO 4/0 COPPER	CADWELD	GTC222Q
58	24	CARTRIDGE #150	CADWELD	150
59	1	MOLD HANDLE, L160	CADWELD	L160
60	1	MOLD HANDLE, L159	CADWELD	L159
61	224	PARALLEL CONNECTOR, #2 COPPER CABLE TO BARBED WRE, BOLTED	SEFCOR	B-N-2SP
62	4	GROUND BRAID, 200 AMP	SEFCOR	XB2N-76-24
63	52	GROUND CLAMP, 2 3/8" O.D. TO 4/0 STR COPPER	SEFCOR	1OC2751
64	4	GROUND CLAMP, 2 7/8" O.D. TO 4/0 COPPER	SEFCOR	1OC2851
65	4	GROUND CLAMP, 4" O.D. TO 4/0 STR COPPER	SEFCOR	1OC3051
66	52	GROUND CLAMP, 1.75" O.D. TO #2 SOL COPPER	SEFCOR	1OC2648
67	52	GROUND CLAMP, 2 PIECE, 2 CONDUCTOR, 4/0 COPPER TO #2 COPPER, TINNED	SEFCOR	GTC2-14-SND