

DISTRIBUTION CONSTRUCTION STANDARDS

Date Published: 14 May 2020

PART 10 - SUBSTATIONS

G2 - DISTRIBUTION SUBSTATION NETWORK ARRANGEMENTS

For application to Horizon Power Electricity Distribution Networks

Uncontrolled document when printed. Refer Online for latest version.

G2 - DISTRIBUTION SUBSTATION NETWORK ARRANGEMENTS – Drawing Register

Number	Description
<u>G2-1/1</u>	6.6kV Overhead Supply District and Sole Use Substation, Typical Urban
<u>G2-1/2</u>	6.6kV Overhead Supply District and Sole Use Substation, Typical Urban
<u>G2-2/1</u>	6.6kV Overhead Supply Customer Owned Substation, Typical Urban
<u>G2-2/2</u>	6.6kV Overhead Supply Customer Owned Substation Typical Urban
<u>G2-3/1</u>	6.6kV Underground Supply District and Sole Use Substation, Typical Urban
<u>G2-4/1</u>	6.6kV Underground Supply Customer Owned Subststion, Typical Urban
<u>G2-4/2</u>	6.6kV Underground Supply Customer Owned Substation, Typical Urban
<u>G2-5/1</u>	11kV Overhead Supply District and Sole Use Substation, Typical Urban
<u>G2-5/2</u>	11kV Overhead Supply District and Sole Use Substation, Typical Urban
<u>G2-5/3</u>	11kV Overhead Supply District and Sole Use Substation, Typical Urban
<u>G2-6/1</u>	11kV Overhead Supply Customer Owned Substation, Typical Urban
<u>G2-6/2</u>	11kV Overhead Supply Customer Owned Substation, Typical Urban
<u>G2-7/1</u>	11kV Overhead Supply District and Sole Use Substation, Typical Urban
<u>G2-7/2</u>	11kV Underground Supply District and Sole Use Substation, Typical Urban
<u>G2-7/3</u>	11kV Underground Supply District and Sole Use Substation, Typical Urban
<u>G2-8/1</u>	11kV Underground Supply Customer Owned Substation, Typical Urban
<u>G2-8/2</u>	11kV Underground Supply Customer Owned Substation, Typical Urban
<u>G2-9/1</u>	22kV Overhead Supply District and Sole Use Substation, Typical Urban
<u>G2-9/2</u>	22kV Overhead Supply District and Sole Use Substation, Typical Urban
<u>G2-9/3</u>	22kV Overhead Supply District and Sole Use Substation, Typical Urban
<u>G2-10/1</u>	22kV Overhead Supply District and Sole Use Substation, Typical Rural
<u>G2-10/2</u>	22kV Overhead Supply District and Sole Use Substation, Typical Rural
<u>G2-11/1</u>	22kV Overhead Supply Customer Owned Substation, Typical Urban
<u>G2-11/2</u>	22kV Overhead Supply Customer Owned Substation, Typical Urban
<u>G2-12/1</u>	22kV Overhead Supply Customer Owned Substation, Typical Rural
<u>G2-13/1</u>	22kV Underground Supply District and Sole Use Substation, Typical Urban and Rural
<u>G2-13/2</u>	22kV Underground Supply District and Sole Use Substation, Typical Urban and Rural
<u>G2-13/3</u>	22kV Underground Supply District and Sole Use Substation, Typical Urban and Rural
<u>G2-14/1</u>	22kV Underground Supply Customer Owned Substation, Typical Urban and Rural
<u>G2-14/2</u>	22kV Underground Supply Customer Owned Substation, Typical Urban and Rural
<u>G2-15/1</u>	33kV Overhead Supply District and Sole Use Substation, Typical Rural
<u>G2-16/1</u>	33kV Overhead Supply Customer Owned Substatin, Typical Rural





Number	Description
<u>G2-17/1</u>	33kV Underground Supply District and Sole Use Substation, Typical Urban and Rural
<u>G2-17/2</u>	33kV Underground Supply District and Sole Use Substation, Typical Urban and Rural
<u>G2-17/3</u>	33kV Underground Supply District and Sole Use Substation, Typical Urban and Rural
<u>G2-18/1</u>	33kV Underground Supply Customer Owned Substation, Typical Urban and Rural
<u>G2-18/2</u>	33kV Underground Supply Customer Owned Substation Typical Urban and Rural

REVISION DATE FEB18 THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.

NUMBER OF	RATING OF EACH TRANSFORMER	MV SYSTEM ARRANGEMENT			ANGEMENT DRAWING		
TRANSFORMERS	(kVA)	LIA DIDICH WRKUNTLUI	DIST NON-FIRE RATED	FIRE RATED	SOLE NON-FIRE RATED	USE FIRE RATED	
COMME ONE SUBSTATION LOCA WITHIN 30m OF P BOUNDARY	160 to 630 MPS	* OPTIONAL - DEPENDS ON NEIGHBOURING NETWORK CONFIGURATION & TX SIZE * * * * *	G3-02	N/A	N/A	N/A	
ONE SUBSTATION LOCA 30m FROM PROPE		RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27) SUBSTATION DOES NOT NEED PROVISION FOR MV SWITCHGEAR)	NZA	NZA	N/A	N/A	
ONE SUBSTATION LOCA 30m OF PROPERT FOR USE OF DROI AN ALTERNATIVE ARRANGEMENT	Y BOUNDARY P OUT FUSES AS	WHERE DROPOUT FUSES ARE USED AS AN ALTERNATIVE TO THIS ARRANGEMENT. SUBSTATION TO HAVE PROVISION FOR MV SWITCHGEAR BUT NOT TO BE INSTALLED INITIALLY	G3-04	G3-08	G3-14	G3-18	
ONE SUBSTATION LOCA 30m FROM PROPE		RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27) SUBSTATION DOES NOT NEED PROVISION FOR MV SWITCHGEAR	NZA	NZA	G3-13	G3-17	

62-1/1

DRAWING No.

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6.6kV OVERHEAD SUPPLY DISTRICT AND SOLE USE SUBSTATION, TYPICAL URBAN

DISTRIBUTION CONSTRUCTION STANDARDS

HORIZON

POWER

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		SHL	NUMBER	RATING OF EACH				NGEMENT DR	
S UI		22	OF TRANSFORMERS	TRANSFORMER (kVA)	MV SYSTEM ARRANGEMENT	DIST		SOLE	
	Ę.	DRA WING DRA WING	СОММ			NON-FIRE RATED	FIRE RATED	NON-FIRE RATED	FIRE RATED
CONST DARDS	HORIZON	5≶	TWO	160 to 1000 NON MPS					
DISTRIBUTION CONSTRUCTION STANDARDS	/	BE READ IN CONJUNCTION WITH NO WAY RELATES TO WESTERN	SUBSTATION LOCAL OF PROPERTY BOU WHERE ONE TRANS PROVIDE FOR THE CUSTOMER MUST P COST DIFFERENCE E & THE APPROPRIAL TRANSFORMER ARR	NDARY, Former Can Load, The Ay The Full Between This Te Single		G3-06	G3-10	G3-16	G3-20
			TWO	160 to 1000 NON MPS	RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27)				
6.6kV OVERH DISTRICT AN SUBSTATION,	REFERE		SUBSTATION LOCA 30m FROM PROPER WHERE ONE TRANS PROVIDE FOR THE CUSTOMER MUST F COST DIFFERENCE THE APPROPRIATE TRANSFORMER ARI	TY BOUNDARY. SFORMER CAN LOAD, THE PAY THE FULL BETWEEN THIS & SINGLE		NZA	NZA	G3-15	G3-19
PERHEAD SUPPLY AND SOLE USE ON, TYPICAL URBAN	ENCE DRAWING	THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015. POWER DRAWING WITH THE SAME NO.							
DRAWING No. G2-1/	REVISION B	02-2015.							
G2-1/2	V DATE FEB18								

SIHI LOAD RANGE **MV SYSTEM ARRANGEMENT** SUBSTATION ARRANGEMENT DRAWING ORIZON **DRAWING** COMMENTS SEE G1-10 FOR CUSTOMER REQUIREMENTS NON-FIRE FIRE >1.5MVA up to 2MVA RATED RATED CUSTOMER 10 G3-22 G3-23 DEPENDING ON CIRCUMSTANCES BΕ THIS ARRANGEMENT MAY BE CONSIDERED FOR A MV CUSTOMER READ IN CONJUNCTION WITH WHOSE LOAD IS SMVA BUT > 1.5MVA ALWAYS PROVIDE FOR 2nd HP ISOLATOR SEE G1-10 FOR CUSTOMER REQUIREMENTS >1.5MVA up to 2MVA G3-22 G3-23 CUSTOMER ALTERNATIVE TO ABOVE WHERE CUSTOMER IS PREPARED TO PAY THE FULL COST OF THE SECOND CABLE & ISOLATOR FOR IMPROVED ΤHE SECURITY. DISTRIBUTION DESIGN RULES SEE G1-10 FOR CUSTOMER REQUIREMENTS >2MVA up to 4MVA G3-23 BOARD CONFIGURATION DEPENDS UPON INSTALLATION. G3-22 CUSTOMER MAX LOAD ON EACH BOARD IS 2MVA EACH SWITCHBOARD IS SUPPLIED OFF A SEPARATE FEEDER (TWO FEEDERS OPERATING RADIALLY). * N.O.P. AT EITHER ISOLATOR . HPC-90J-01-0002-2015. **REVISION** BOARD CONFIGURATION DEPENDS UPON INSTALLATION. **CUSTOMER** MAX LOAD ON EACH BOARD IS 2MVA SEE G1-10 FOR CUSTOMER REQUIREMENTS DATE EB 18

.2/1

DRAWING No.

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FEB

DISTRIBUTION CONSTRUCTION STANDARDS

6.6kV OVERHI CUSTOMER SUBSATION, T

R OWNED TYPICAL URBA

URBAN

OVERHEAD

POWER

G2-

STANDARDS	DISTRIBUTION CONSTRUCTION	HORIZON	THIS DRAWING TO BE READ IN	LOAD RANGE COMMENTS ABOVE 4MVA DEDICATED FEEDERS FROM THE SAME ZONE SUBSTATION BUSBAR OPERATING ON CLOSED RING WITH DIRECTIONAL O/C & E/F OR PILOT PROTECTION.	MV SY	REFER WAER/WADCM FOR CUSTOMER REQUIREMENTS BOARD CONFIGURATION DEPENDS UPON INSTALLATION.
CUSTOMER OWNED SUBSTATION, TYPICAL URBAN	6.6kV OVERHEAD SUPPLY		READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.		ZONE SUBSTATION	FIRE SEGREGATED FIRE SEGREGATED BOARD CONFIGURATION DEPENDS UPON INSTALLATION. REFER WAER/WADCM FOR CUSTOMER REQUIREMENTS
G2-	DRAWING No.	REVISION B	. <i>0002-201</i> 5.			
G2-2/2	No.	DATE FEB18				

SUBSTATION ARRANGEMENT DRAWING

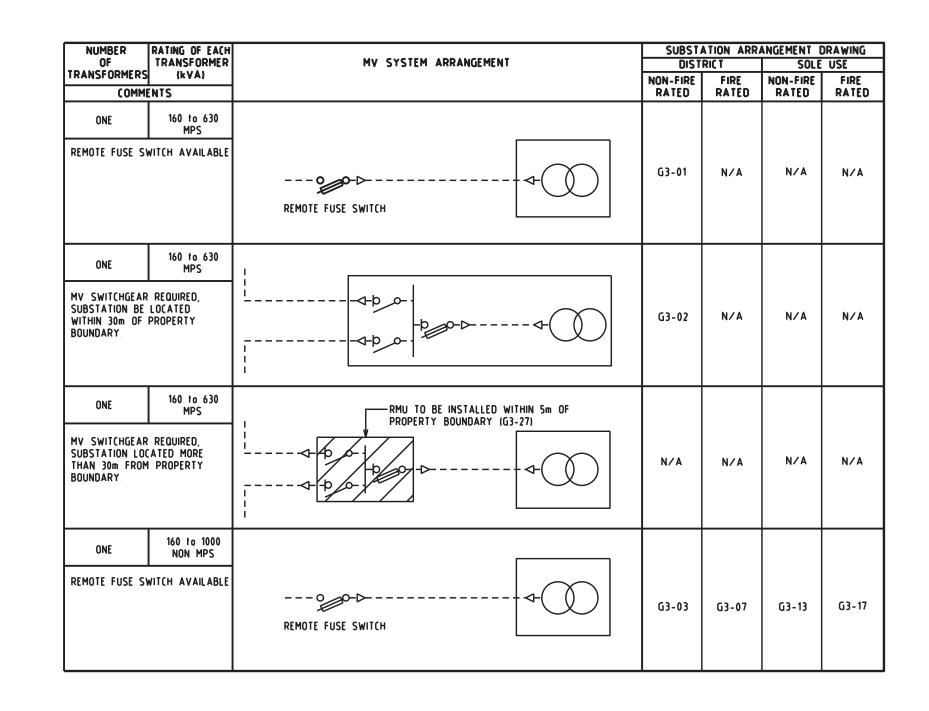
NON-FIRE RATED

G3-23

FIRE RATED

G3-22

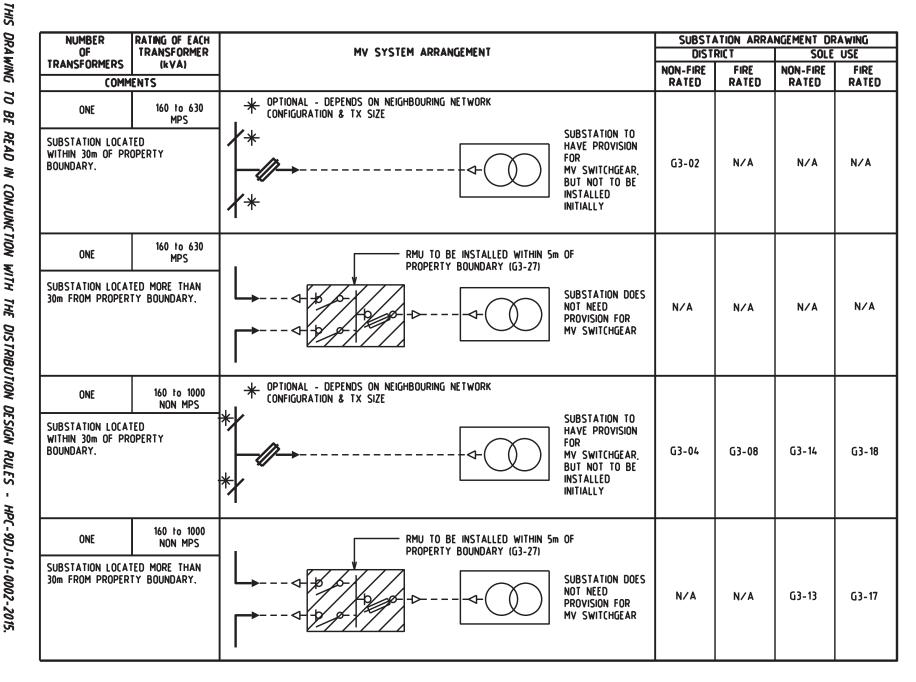
DISTRIBUTION CONSTRUCTION STANDARDS HORIZON POWER 6.6kV UNDERGROUND SUPPLY DISTRICT AND SOLE USE SUBSTATION, TYPICAL URBAN RE П ERENCE DRAWING DRAWING No **REVISION** Β G2 ω DATE FEB18 \geq



DISTRIBUTION CONSTRUCTION STANDARDS SIHL LOAD RANGE **MV SYSTEM ARRANGEMENT** SUBSTATION ARRANGEMENT DRAWING DRAWING ORIZON COMMENTS POWER FIRE RATED NON-FIRE RATED SEE G1-10 FOR CUSTOMER REQUIREMENTS >1.5MVA up to 2MVA 10 CUSTOMER G3-22 G3-23 BE _ . . _ . . _ . DEPENDING ON CIRCUMSTANCES READ THIS ARRANGEMENT MAY BE CONSIDERED FOR A MV CUSTOMER WHOSE LOAD IS Ž BUT >1.5MVA. CONJUNCTION WITH Т 6.6kV UNDERGROUND CUSTOMER OWNED ĨHE DISTRIBUTION DESIGN RULES SEE G1-10 FOR CUSTOMER REQUIREMENTS G3-22 G3-23 >2MVA up to 4MVA BOARD CONFIGURATION DEPENDS UPON INSTALLATION. **L** CUSTOMER MAX LOAD ON EACH BOARD IS 2MVA EACH SWITCHBOARD IS SUPPLIED OFF A SEPARATE FEEDER (TWO FEEDERS OPERATING RADIALLY. **SUPPLY URBAN** * N.O.P. AT EITHER ISOLATOR н. HPC-9DJ-01-0002-2015. kWh DRAWING No. **REVISION** BOARD CONFIGURATION DEPENDS UPON INSTALLATION. Β **V** CUSTOMER G2-4 MAX LOAD ON EACH BOARD IS 2MVA SEE G1-10 FOR CUSTOMER REQUIREMENTS DATE FEB18

DISTRI	7	1		
	I LOAD RANGE	MV SYSTEM ARRANGEMENT	SUBSTATION AR	RANGEMENT DRAWING
	COMMENTS ABOVE 4MVA	-		
HORIZON POWER IBUTION CONST STANDARDS		REFER WAER/WADCM FOR CUSTOMER REQUIREMENTS BOARD CONFIGURATION DEPENDS UPON INSTALLATION.	FIRE RATED	NON-FIRE RATED
HORIZON POWER DISTRIBUTION CONSTRUCTION STANDARDS CUSTOMER SUBSTATION,	TO BE READ DEDICATED FEEDERS FROM THE SAME ZONE SUBSTATION BUSBAR OPERATING ON CLOSED RING WITH DIRECTIONAL 0/C & E/F OR PILOT PROTECTION.		G3-22	G3-23
NDER FOME	DISTR	CUSTOMER UPON INSTALLATION. REFER WAER/WADCM FOR CUSTOMER REQUIREMENTS		
RGROUND SUPPLY R OWNED , TYPICAL URBAN	- HPC-9DJ-			
DRAWING No.	01-0002-2015.			
G2-4/2	<i></i>			

DRA WING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES -HPC-90J-01-0002-2015



DISTRIBUTION CONSTRUCTION STANDARDS 11kV OVERHEAD SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL URBAN

HORIZON

POWER

DRAWING No. 62-5/1

REVISION

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FEB DATE 8

DISTRIBUTION CONSTRUCTION STANDARDS SIHI NUMBER RATING OF EACH SUBSTATION ARRANGEMENT DRAWING TRANSFORMER OF **MV SYSTEM ARRANGEMENT** DISTRICT ORIZON TRANSFORMERS (kVA) **DRAWING** NON-FIRE NON-FIRE FIRE COMMENTS RATED RATED RATED POWER 160 to 1000 TWO NON MPS 10 SUBSTATION LOCATED WITHIN 30m BE OF PROPERTY BOUNDARY. WHERE ONE TRANSFORMER CAN G3-06 READ G3-10 G3-16 PROVIDE FOR THE LOAD, THE CUSTOMER MUST PAY THE FULL COST DIFFERENCE BETWEEN THIS & IN CONJUNCTION THE APPROPRIATE SINGLE TRANSFORMER ARRANGEMENT, RMU TO BE INSTALLED WITHIN 5m OF 160 to 1000 TWO NON MPS **PROPERTY BOUNDARY (G3-27)** SUBSTATION LOCATED MORE THAN S 11kV OVERHEAD SUPP DISTRICT AND SOLE SUBSATION, TYPICAL 30m FROM PROPERTY BOUNDARY. WITH 11k V UBSATION, WHERE ONE TRANSFORMER CAN N/A N/A G3-15 PROVIDE FOR THE LOAD. THE CUSTOMER MUST PAY THE FULL ĨĦ **COST DIFFERENCE BETWEEN THIS &** THE APPROPRIATE SINGLE DISTRIBUTION DESIGN RULES TRANSFORMER ARRANGEMENT. 160 to 1000 THREE OR FOUR NON MPS SOLE WHERE THE TRANSFORMERS ARE TO BE LOCATED WITHIN 30m OF THE BOUNDARY, THE MV SWITCHROOM CAN BE ADJACENT TO URB AN THE TRANSFORMERS, HOWEVER FIRE SEGREGATED WHERE THE TRANSFORMERS ARE TO BE LOCATED MORE THAN 30m FROM THE BOUNDARY THE MV N/A N/A N/A SWITCHROOM IS TO BE LOCATED . SEPARATELY FROM THE HPC-9DJ-01-0002-2015 TRANSFORMERS & SHOULD BE WITHIN 5m OF THE BOUNDARY. WHERE LESS TRANSFORMERS CAN ԴÞ PROVIDE FOR THE LOAD. THE CUSTOMER MUST PAY THE FULL **COST DIFFERENCE BETWEEN THIS &** SPACE ALWAYS TO BE PROVIDED IN SWITCHROOM FOR 2nd CABLE ISOLATOR THE MINIMUM ARRANGEMENT. DRAWING -a_i-**REVISION** B G2-No. ΰ 2 FEB

DATE EB 18

SOLE USE

FIRE

RATED

G3-20

G3-19

G3-21

DISTRIBUTION CONSTRUCTION STANDARDS HORIZON POWER 11kV OVERHEAD SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL URBAN REVISION DRAWING No. B G2-5/3 DATE FEB 18

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.

NUMBER RATING OF EACH OF TRANSFORMER IRANSFORMERS (kVA)			SUBST	NGEMENT DF		
		MV SYSTEM ARRANGEMENT	DIST		SOLE	
COMME			NON-FIRE RATED	FIRE RATED	NON-FIRE RATED	FIRE RATED
THREE OR FOUR ALTERNATIVE TO CUSTOMER IS PREF THE FULL COST OF CABLE & ISOLATO SECURITY.	PARED TO PAY F THE SECOND	FIRE SEGREGATED	NZA	NZA	NZA	G3-21

SIHI LOAD RANGE MV SYSTEM ARRANGEMENT SUBSTATION ARRANGEMENT DRAWING DRA WING COMMENTS SEE G1-10 FOR CUSTOMER REQUIREMENTS NON-FIRE RATED FIRE RATED >2MVA up to 4MVA 20 G3-22 G3-23 DEPENDING ON CIRCUMSTANCES BE THIS ARRANGEMENT MAY ALSO BE CUSTOMER READ CONSIDERED FOR A MV CUSTOMER WHOSE LOAD IS SMVA BUT > 1.5MVA SPACE ALWAYS TO BE PROVIDED IN SWITCHROOM FOR 2nd CABLE ISOLATOR IN CONJUNCTION WITH 1.20 SEE G1-10 FOR CUSTOMER REQUIREMENTS G3-23 G3-22 >2MVA up to 4MVA ALTERNATIVE TO ABOVE WHERE CUSTOMER IS PREPARED TO PAY CUSTOMER THE FULL COST OF THE SECOND ----CABLE & ISOLATOR FOR IMPROVED ĨŦĔ SECURITY. DISTRIBUTION DESIGN RULES SEE G1-10 FOR CUSTOMER REQUIREMENTS >4MVA up to 8MVA G3-22 G3-23 BOARD CONFIGURATION DEPENDS UPON INSTALLATION. **L** CUSTOMER MAX LOAD ON EACH BOARD IS 4MVA EACH SWITCHBOARD SUPPLIED OFF A SEPARATE FEEDER. (TWO FEEDERS OPERATING RADIALLY) N.O.P. AT EITHER ISOLATOR * FIRE SEGREGATED ÷. HPC-90J-01-0002-2015 BOARD CONFIGURATION DEPENDS UPON INSTALLATION. **V** CUSTOMER MAX LOAD ON EACH BOARD IS 4MVA SEE G1-10 FOR CUSTOMER REQUIREMENTS

DISTRIBUTION CONSTRUCTION STANDARDS

11kV OVERHEAD SUPPLY CUSTOMER OWNED SUBSATION, TYPICAL URE

URBAN

ORIZON

POWER

G2-6/1

DRAWING No.

REVISION

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FEB DATE EB 18

	DIST					
	RIBUT	Here	THIS	LOAD RANGE	MV SYSTEM ARRANGEMENT	SUBSTATION ARRANGEMENT DRAWING
	TAN	_곱	DRA	COMMENTS	•	
	CONS T DARDS	POWER	DRAWING T	ABOVE 8MVA	REFER WAER/WADCM FOR CUSTOMER REQUIREMENTS BOARD CONFIGURATION DEPENDS UPON INSTALLATION.	
	DISTRIBUTION CONSTRUCTION STANDARDS	1	TO BE R	DEDICATED FEEDERS FROM THE SAME ZONE SUBSTATION BUSBAR OPERATING ON CLOSED RING		G-3-22
	Ż	_	READ IN	WITH DIRECTIONAL O/C & E/F OR PILOT PROTECTION		
			IN CONJUNCTION WITH		ZONE SUBSTATION	
	0		NC TION			
			WITH			
	11kV OVERHEAD SUPPLY CUSTOMER OWNED		THE DIS		BOARD CONFIGURATION DEPENDS UPON INSTALLATION. REFER WAER/WADCM FOR CUSTOMER REQUIREMENTS	
-	RHE AI		DISTRIBUTION DESIGN RULES			
			ION DES			
	PPLY		SIGN RL			
	2 Z		ILES -			
			HPC-9DJ-01			
			55-01-0			
	DRAWING No.	B	-0002-2015.			
	WING No. G2-6/2					
	2	DATE FEB 18				

N (G2-7/1

11kV OVERHEAD SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL URBAN

REVISION DATE B FEB 18

DRAWING No.

DISTRIBUTION CONSTRUCTION STANDARDS



NUMBER OF	RATING OF EACH TRANSFORMER	MV SYSTEM ARRANGEMENT	SUBST / DIST		NGEMENT DRAWING SOLE USE		
TRANSFORMERS	(kVA)		NON-FIRE RATED	FIRE	NON-FIRE RATED	FIRE	
ONE	160 to 630 MPS						
REMOTE FUSE SWITCH AVAILABLE			G-3-01	N/A	NZA	N/A	
ONE	160 to 630 MPS						
MV SWITCHGEAR R SUBSTATION LOCAT WITHIN 30m OF PR BOUNDARY	TED		G-3-02	N/A	NZA	N/A	
ONE MV SWITCHGEAR R SUBSTATION LOCA THAN 30m FROM P	ATED MORE	RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G-3-27)	N/A	NZA	NZA	N/A	
BOUNDARY					Nº A		
ONE	160 to 1000 NON MPS						
REMOTE FUSE SWIT	ICH AVAILABLE		G-3-03	G-3-07	G-3-13	G-3-17	

DISTRIBUTION CONSTRUCTION STANDARDS SIHI NUMBER RATING OF EACH HORIZON TRANSFORMER OF MV SYSTEM ARRANGEMENT TRANSFORMERS (kVA) DRA WING COMMENTS POWER 160 to 1000 ONE NON MPS 10 MV SWITCHGEAR REQUIRED. BE SUBSTATION LOCATED READ WITHIN 30m OF PROPERTY BOUNDARY IN CONJUNCTION WITH 160 to 1000 ONE NON MPS RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27) 11kV SUBSATION, MV SWITCHGEAR REQUIRED. kV UNDERGROUND SUPPLY DISTRICT AND SOLE USE UBSATION, TYPICAL URBAN SUBSTATION LOCATED MORE THAN 30m FROM PROPERTY BOUNDARY THE DISTRIBUTION DESIGN RULES 160 to 1000 TWO NON MPS SUBSTATION LOCATED WITHIN 30m OF PROPERTY BOUNDARY, WHERE ONE TRANSFORMER CAN PROVIDE FOR THE LOAD. THE CUSTOMER MUST PAY THE FULL COST DIFFERENCE BETWEEN THIS & THE APPROPRIATE SINGLE TRANSFORMER ARRANGEMENT. . 160 to 1000 RMU TO BE INSTALLED WITHIN 5m OF HPC-90J-01-0002-2015 TWO NON MPS PROPERTY BOUNDARY (G3-27) SUBSTATION LOCATED MORE THAN 30m FROM PROPERTY BOUNDARY. WHERE ONE TRANSFORMER CAN PROVIDE FOR THE LOAD. THE CUSTOMER MUST PAY THE FULL DRAWING No. **REVISION COST DIFFERENCE BETWEEN THIS &** œ THE APPROPRIATE SINGLE G2-7/2 TRANSFORMER ARRANGEMENT. FEB DATE EB 18

SUBSTATION ARRANGEMENT DRAWING

SOLE USE

FIRE

RATED

G3-18

G3-17

G3-20

G3-19

NON-FIRE

RATED

G3-14

G3-13

G3-16

G3-15

DISTRICT

FIRE

RATED

G3-08

N/A

G3-10

N/A

NON-FIRE

RATED

G3-04

N/A

G3-06

N/A

	DIST												
		SIHI	NUMBER OF	RATING OF EACH TRANSFORMER		MV S	SYSTEM ARRANGEMEN	IT.	- F			NGEMENT DR	
STA				(kVA)	-	FIV 2			ŀ	DISTR NON-FIRE RATED	FIRE RATED	SOLE NON-FIRE RATED	FIRE RATED
STANDARDS	HORIZON POWER	DRAWING TO BE READ IN	THREE OR FOUR WHERE THE TRANSI TO BE LOCATED WI THE BOUNDARY, TH SWITCHROOM CAN E TO THE TRANSFOR WHERE THE TRANSI TO BE LOCATED MO	160 to 1000 NON MPS ORMERS ARE THIN 30m OF E MV E ADJACENT 4ERS. HOWEVER ORMERS ARE	-		-p_o-⊳		IE GREGATED				
DIS TRICT SUBSATION	11kV UNDER	CONJUNCTION WITH THE DIS	FROM THE BOUNDAI SWITCHROOM IS TO SEPARATELY FROM TRANSFORMERS & S WITHIN 5m OF THE WHERE LESS TRANS PROVIDE FOR THE I CUSTOMER MUST PA COST DIFFERENCE B THE MINIMUM ARRA	RY THE MV BE LOCATED THE SHOULD BE BOUNDARY. SFORMERS CAN .OAD. THE AY THE FULL ETWEEN THIS &		-~₽,0- ~₽,0-	-b_o-⊳			NZA	N/A	N/A	G3-21
DISTRICT AND SOLE USE SUBSATION, TYPICAL URBAN	GROUND SUPPLY	DISTRIBUTION DESIGN RULES - HPC-9DJ-01-											
62	DRAWING No.	01-0002-2015											
G2-7/3	FEB 18												

DISTRIBUTION CONSTRUCTION STANDARDS POWER 11kV UNDERGROUND SUPPLY CUSTOMER OWNED SUBSATION, TYPICAL URBAN DRAWING No. G2-8/1

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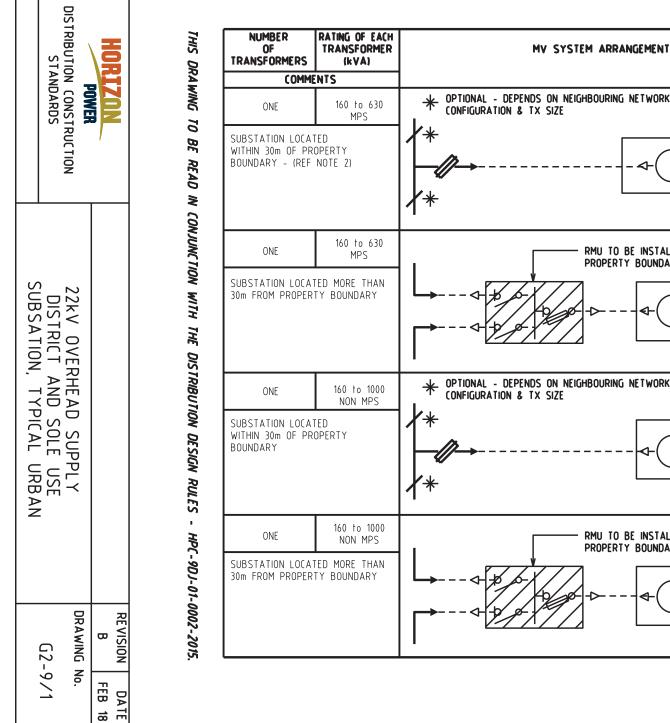
REVISION DATE FEB 18

HORIZON

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.

LOAD RANGE	MV SYSTEM ARRANGEMENT	SUBSTATION ARE	ANGEMENT DRAWING
COMMENTS	REFER WAER/WADCM FOR CUSTOMER REQUIREMENTS		
>2MVA up to 4MVA	SEE G1-10 FOR CUSTOMER REQUIREMENTS	FIRE RATED	NON-FIRE RATED
DEPENDING ON CIRCUMSTANCES THIS ARRANGEMENT MAY ALSO BE CONSIDERED FOR A MV CUSTOMER WHOSE LOAD IS ≪MVA BUT ≫1.5MVA		G3-22	G3-23
>4MVA up to 8MVA	SEE G1-10 FOR CUSTOMER REQUIREMENTS BOARD CONFIGURATION DEPENDS UPON INSTALLATION. MAX LOAD ON EACH BOARD IS 4MVA	G3-22	G3-23
EACH SWITCHBOARD SUPPLIED OFF A SEPARATE FEEDER. TWO FEEDERS OPERATING RADIALLY)	KWh FIRE SEGREGATED HIRE SEGREGATED BOARD CONFIGURATION DEPENDS UPON INSTALLATION. MAX LOAD ON EACH BOARD IS 4MVA SEE G1-10 FOR CUSTOMER REQUIREMENTS		

DISI				
RIBUT	HU SHI	LOAD RANGE	MV SYSTEM ARRANGEMENT	SUBSTATION ARRANGEMENT DRAWING
	RT DRA	COMMENTS		
POWER I CONST NDARDS	DRAWING TO	ABOVE 8MVA	REFER WAER/WADCM FOR CUSTOMER REQUIREMENTS BOARD CONFIGURATION DEPENDS	G3-22
POWER DISTRIBUTION CONSTRUCTION STANDARDS	O BE READ IN	DEDICATED FEEDERS FROM THE SAME ZONE SUBSTATION BUSBAR OPERATING ON CLOSED RING WITH DIRECTIONAL O/C & E/F OR PILOT PROTECTION		
	CONJUNCTION WITH			
11kV L CU SUBS/				
JNDER USTOI A TION	THE DIS		BOARD CONFIGURATION DEPENDS V CUSTOMER V CUSTOMER REFER WAER/WADCM FOR CUSTOMER REQUIREMENTS	
11kV UNDERGROUND SU CUSTOMER OWNED SUBSATION, TYPICAL (DISTRIBUTION DESIGN RULES			
UPPLY D URBAN	'GN RULES -			
	HP(-9DJ-			
DRAWING No. G2-8/	01-0002-2015.			
	SION			
G2-8/2				



ING OF EACH		SUBSTATION ARRANGEMENT DRAWING						
RANSFORMER	MV SYSTEM ARRANGEMENT	DIST	RI (T	SOLE USE				
(kVA) S		NON-FIRE RATED	FIRE RATED	NON-FIRE RATED	FIRE RATED			
160 to 630 MPS RTY IE 2)	* OPTIONAL - DEPENDS ON NEIGHBOURING NETWORK CONFIGURATION & TX SIZE * * * * *	G3-02	NZA	NZA	N/A			
160 to 630 MPS MORE THAN BOUNDARY	RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27) SUBSTATION DOES NOT NEED PROVISION FOR MV SWITCHGEAR	N/A	N/A	NZA	N/A			
160 to 1000 NON MPS	* OPTIONAL - DEPENDS ON NEIGHBOURING NETWORK CONFIGURATION & TX SIZE * * * * * * *	G3-04	G3-08	G3-14	G3-18			
160 to 1000 NON MPS MORE THAN BOUNDARY	RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27) SUBSTATION DOES NOT NEED PROVISION FOR MV SWITCHGEAR	N/A	NZA	G3-13	G3-17			

SUBSTATION ARRANGEMENT DRAWING

DISTRIBUTION CONSTRUCTION STANDARDS THIS UKAWING TU HORIZON POWER DE READ IN LUNJUNCTION WITH 22kV OVERHEAD SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL URBAN וחב ç Ļ 22 NOLLO חרני 100 -01-0002-2013. DRAWING No. REVISION B G2-9/2 DATE FEB 18

	MBER RATING OF EACH OF TRANSFORMER MV SYSTE				NGEMENT DRAWING		
TRANSFORMERS	(kVA)	MV SYSTEM ARRANGEMENT	DIST		SOLE		
COMM	NTS		NON-FIRE RATED	FIRE RATED	NON-FIRE RATED	FIRE RATEO	
TWO	160 to 1000 NON MPS						
SUBSTATION LOCATE PROPERTY BOUNDAR TRANSFORMER CAN LOAD. THE CUSTOME THE FULL COST DIFI THIS & THE APPROF TRANSFORMER ARRA	Y. WHERE ONE PROVIDE FOR THE R MUST PAY ERENCE BETWEEN PRIATE SINGLE		G3-06	G3-10	G3-16	G3-20	
TWO	160 to 1000 NON MPS	RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27)					
SUBSTATION LOCATE 30m FROM PROPERT WHERE ONE TRANSF PROVIDE FOR THE L	Y BOUNDARY. ORMER (AN OAD, THE		NZA	NZA	G3-15	G3-19	
CUSTOMER MUST PA COST DIFFERENCE BI THE APPROPRIATE S TRANSFORMER ARRA	TWEEN THIS &						
THREE OR FOUR	160 to 1000 NON MPS						
WHERE THE TRANSF BE LOCATED WITHIN BOUNDARY, THE MV CAN BE ADJACENT TRANSFORMERS. HOU THE TRANSFORMERS LOCATED MORE THA	30m OF THE SWITCHROOM TO THE VEVER WHERE ARE TO BE N 30m FROM						
THE BOUNDARY THE SWITCHROOM IS TO SEPARATELY FROM TRANSFORMERS & S WITHIN 5m OF THE WHERE LESS TRANS	BE LOCATED THE HOULD BE BOUNDARY.		NZA	N/A	NZA	G3-21	
PROVIDE FOR THE L CUSTOMER MUST PA COST DIFFERENCE BI THE MINIMUM ARRAM	oad, the Y the full Tween this &	SPACE ALWAYS TO BE PROVIDED IN SWITCHROOM FOR 2nd CABLE ISOLATOR					

DISTRIBUTION CONSTRUCTION STANDARDS HORIZON POWER 22kV OVERHEAD SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL URBAN REVISION DRAWING No. B G2-9/3 DATE FEB 18

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.

NUMBER RATING OF EACH OF TRANSFORMER			SUBST	TATION ARRANGEMENT DRAWING		
OF TRANSFORMERS	TRANSFORMER (kVA)	MV SYSTEM ARRANGEMENT				USE
COMME			NON-FIRE RATED	FIRE RATED	NON-FIRE RATED	FIRE RATED
THREE OR FOUR ALTERNATIVE TO CUSTOMER IS PREI THE FULL COST O CABLE & ISOLATO SECURITY.	160 to 1000 NON MPS PREVIOUS WHERE PARED TO PAY F THE SECOND		N/A	N/A	N/A	G3-21

G2-10/1

DRAWING No.

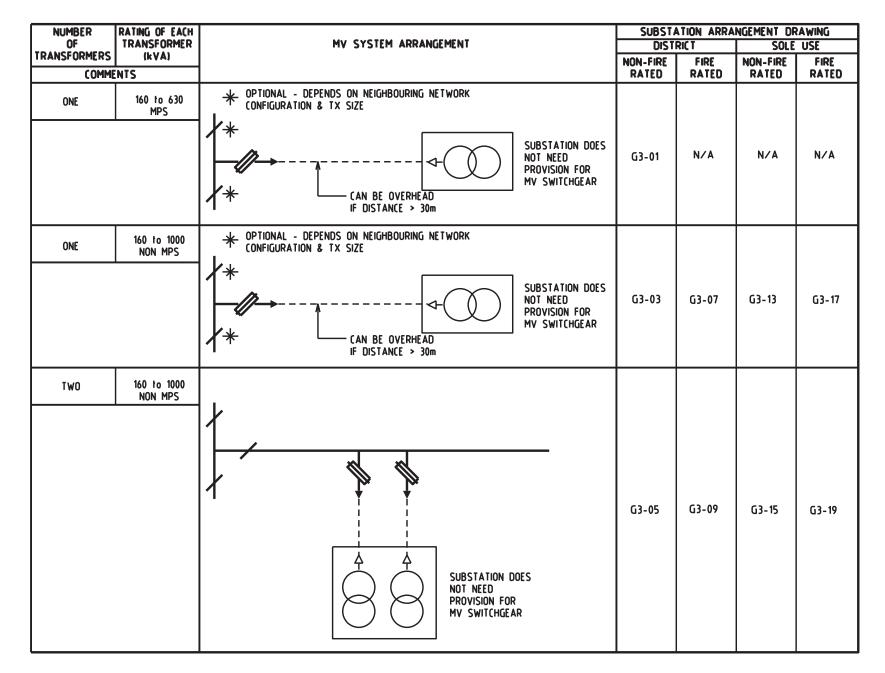
REVISION

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FEB DATE EB 18

22kV OVERHEAD SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL RURAL





G2-10/2

DRAWING No.

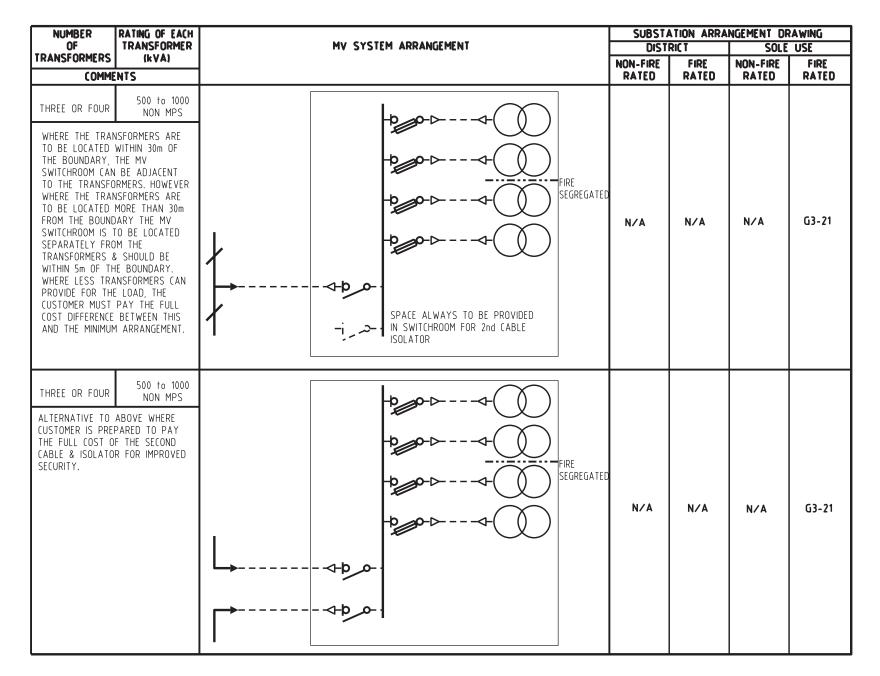
REVISION œ

FEB DATE EB 18

SUBSATION, 22kV OVERHEAD SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL RURAL

DISTRIBUTION CONSTRUCTION STANDARDS ORIZON POWER

SHL DRA WING 10 BΕ READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES ı. HPC-9DJ-01-0002-2015.



SIHI LOAD RANGE MV SYSTEM ARRANGEMENT SUBSTATION ARRANGEMENT DRAWING ORIZON **DRAWING** COMMENTS SEE G1-10 FOR CUSTOMER REQUIREMENTS NON-FIRE RATED FIRE RATED >2MVA up to 4MVA 10 G3-22 G3-23 DEPENDING ON CIRCUMSTANCES BE THIS ARRANGEMENT MAY ALSO CUSTOMER kWh READ BE CONSIDERED FOR A MV CUSTOMER WHOSE LOAD IS ≤2MVA BUT >1.5MVA SPACE ALWAYS TO BE PROVIDED IN SWITCHROOM FOR 2nd CABLE ISOLATOR IN CONJUNCTION WITH SEE G1-10 FOR CUSTOMER REQUIREMENTS G3-22 G3-23 >2MVA up to 4MVA ALTERNATIVE TO ABOVE WHERE CUSTOMER IS PREPARED TO PAY CUSTOMER kWh THE FULL COST OF THE SECOND _ . . _ . . > CABLE & ISOLATOR FOR IMPROVED ΤHE SECURITY. DISTRIBUTION DESIGN RULES SEE G1-10 FOR CUSTOMER REQUIREMENTS >4MVA up to 8MVA G3-23 G3-22 BOARD CONFIGURATION DEPENDS UPON INSTALLATION. **L** CUSTOMER MAX LOAD ON EACH BOARD IS 4MVA EACH SWITCHBOARD SUPPLIED FROM A SEPARATE LEG OF A Y SPLIT FEEDER. (MAY BE FROM THE SAME OR DIFFERENT FEEDERS) N.O.P. AT EITHER ISOLATOR FIRE SEGREGATED . HPC-90J-01-0002-2015. **REVISION** BOARD CONFIGURATION DEPENDS UPON INSTALLATION. B **V** CUSTOMER MAX LOAD ON EACH BOARD IS 4MVA SEE G1-10 FOR CUSTOMER REQUIREMENTS FEB

G2-11/1

DRAWING

No.

DATE EB 18

22kV OVERHEAD SUPF CUSTOMER OWNED SUBSATION, TYPICAL (**URBAN**

SUPPL . ≺

DISTRIBUTION CONSTRUCTION STANDARDS

POWER

G2-11/2

URBAN

22kV OVERHEAD SUPF CUSTOMER OWNED SUBSATION, TYPICAL (

SUPPL

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DISTRIBUTION CONSTRUCTION STANDARDS

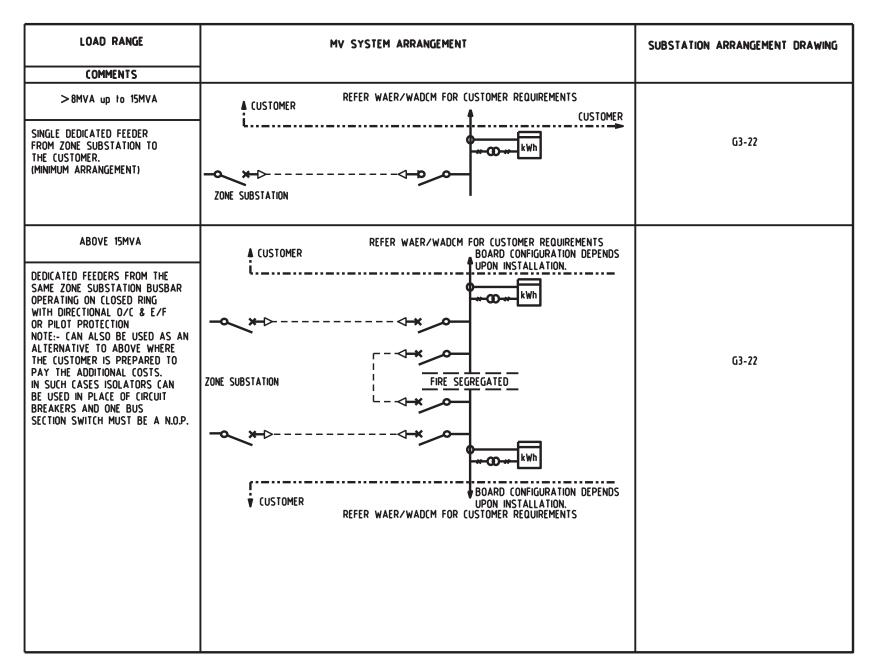
ORIZON

POWER

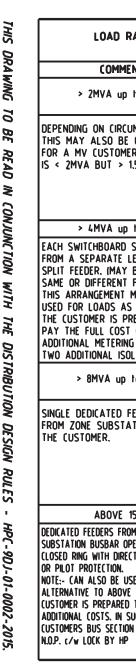
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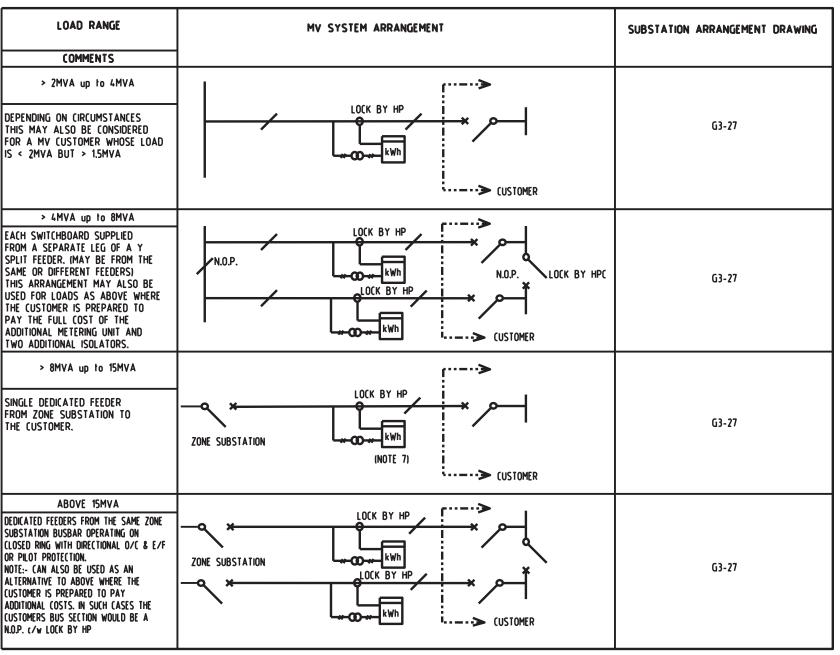
REVISION œ FEB DATE EB 18

SIHI **DRAWING** 10 BΕ READ IN CONJUNCTION WITH ΤHE DISTRIBUTION DESIGN RULES . HPC-90J-01-0002-2015.



DISTRIBUTION CONSTRUCTION STANDARDS ORIZON POWER 22kV OVERHEAD CUSTOMER OV SUBSATION, TYPI(ER OWNED SUPPL RURAL \prec DRAWING **REVISION** σ G2-12/1 No. FEB DATE EB 18





G2-13/1

22kV UNDERGROUND SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL URBAN AND RURAL

DRAWING No.

B DATE FEB 18

REVISION

DISTRIBUTION CONSTRUCTION STANDARDS HORIZON POWER

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.

OF	RATING OF EACH TRANSFORMER	MV SYSTEM ARRANGEMENT	SUBST/ DIST		RANGEMENT DRAWING SOLE USE		
TRANSFORMERS	NON-FIRE RATED	FIRE RATED	NON-FIRE RATED	FIRE RATED			
one Remote fuse sw	160 to 630 MPS		G3-01	N/A	N/A	N/A	
ONE	160 to 630 MPS						
MV SWITCHGEAR SUBSTATION LOCA 30m of Propert	ATED WITHIN		G3-02	N/A	NZA	NZA	
ONE MV SWITCHGEAR SUBSTATION LOC/ THAN 30m FROM BOUNDARY	ATED MORE	RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27)	N/A	NZA	NZA	N/A	
ONE	160 to 1000 NON MPS						
REMOTE FUSE SW	/ITCH AVAILABLE		G3-03	G3-07	G3-13	G3-17	

DRAWING No. G2-13/2

REVISION

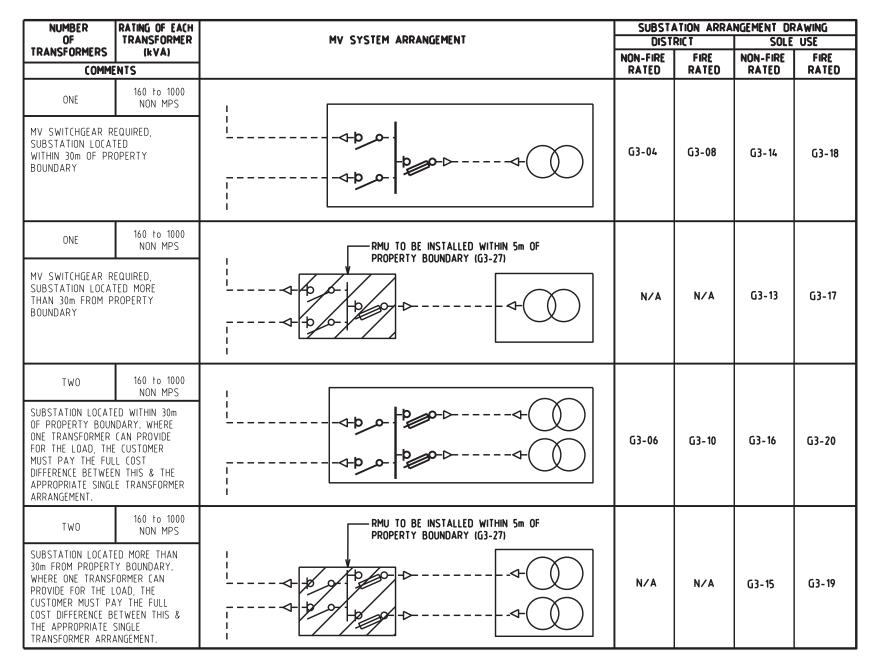
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DATE FEB 18

22kV UNDERGROUND SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL URBAN AND RURAL

HORIZON POWER DISTRIBUTION CONSTRUCTION STANDARDS

SIHI DRA WING 10 BΕ READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES . HPC-9DJ-01-0002-2015.



	DISTR		7	NUMBER	RATING OF EACH		SUBST	TION ARRA	NGEMENT DR	AWING
	BU	HO	THIS	OF	TRANSFORMER	MV SYSTEM ARRANGEMENT	DIST		SOLE	
		R	DRA WING	TRANSFORMERS	(kVA) ENTS		NON-FIRE RATED	FIRE RATED	NON-FIRE RATED	FIRE RATED
	DISTRIBUTION CONSTRUCTION	HORIZON	TO BE READ IN	THREE OR FOUR WHERE THE TRANSF BE LOCATED WITHIN BOUNDARY, THE MV CAN BE ADJACENT TRANSFORMERS, HO THE TRANSFORMERS LOCATED MORE THA	ORMERS ARE TO 30m OF THE SWITCHROOM TO THE WEVER WHERE S ARE TO BE	0 0				
	22kV UNDER		CONJUNCTION WITH THE DIST	BOUNDARY THE MV TO BE LOCATED SEI THE TRANSFORMERS WITHIN 5m OF THE WHERE LESS TRANS PROVIDE FOR THE L CUSTOMER MUST PA COST DIFFERENCE BI THE MINIMUM ARRAN	SWITCHROOM IS PARATELY FROM 5 & SHOULD BE BOUNDARY, 5FORMERS CAN .OAD, THE AY THE FULL ETWEEN THIS &		N/A	N/A	N/A	G3-21
PICAL URBAN AND RURAL	GROUND SUPPLY		DISTRIBUTION DESIGN RULES - HPC-9DJ-01-							
G2-13/3	ING N	REVISION DATE B FEB 18	1-0002-2015.							

DISTRIBUTION CONSTRUCTION STANDARDS SIHI LOAD RANGE **MV SYSTEM ARRANGEMENT** SUBSTATION ARRANGEMENT DRAWING ORIZON **DRAWING** COMMENTS POWER SEE G1-10 FOR CUSTOMER REQUIREMENTS FIRE RATED NON-FIRE RATED >2MVA up to 4MVA 10 G3-22 G3-23 BE DEPENDING ON CIRCUMSTANCES THIS ARRANGEMENT MAY ALSO BE CUSTOMER READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES CONSIDERED FOR A MV CUSTOMER WHOSE LOAD IS >1.5MVA BUT ≤ 2MVA Т SUBSATION, 22kV V UNDERGROUND CUSTOMER OWNI N, TYPICAL URB/ SEE G1-10 FOR CUSTOMER REQUIREMENTS BOARD CONFIGURATION DEPENDS UPON INSTALLATION. >4MVA up to 8MVA G3-22 G3-23 **L** CUSTOMER MAX LOAD ON EACH BOARD IS 4MVA DUND SUPPLY OWNED URBAN AND I EACH SWITCHBOARD SUPPLIED FROM A SEPARATE LEG OF A Y SPLIT FEEDER (MAY BE FROM THE SAME OR DIFFERENT FEEDERS) N.O.P. AT EITHER ISOLATOR RURAL FIRE SEGREGATED . HPC-90J-01-0002-2015. kWh DRAWING **REVISION** BOARD CONFIGURATION DEPENDS UPON INSTALLATION. 1 σ G2-14/1 **CUSTOMER** MAX LOAD ON EACH BOARD IS 4MVA SEE G1-10 FOR CUSTOMER REQUIREMENTS No. FEB DATE EB 18

G2-14/2

RURAL

DISTRIBUTION CONSTRUCTION STANDARDS

SUBSATION,

22kV

/ UNDERGROUND CUSTOMER OWNE N, TYPICAL URBA

DUND SUPPLY OWNED URBAN AND I

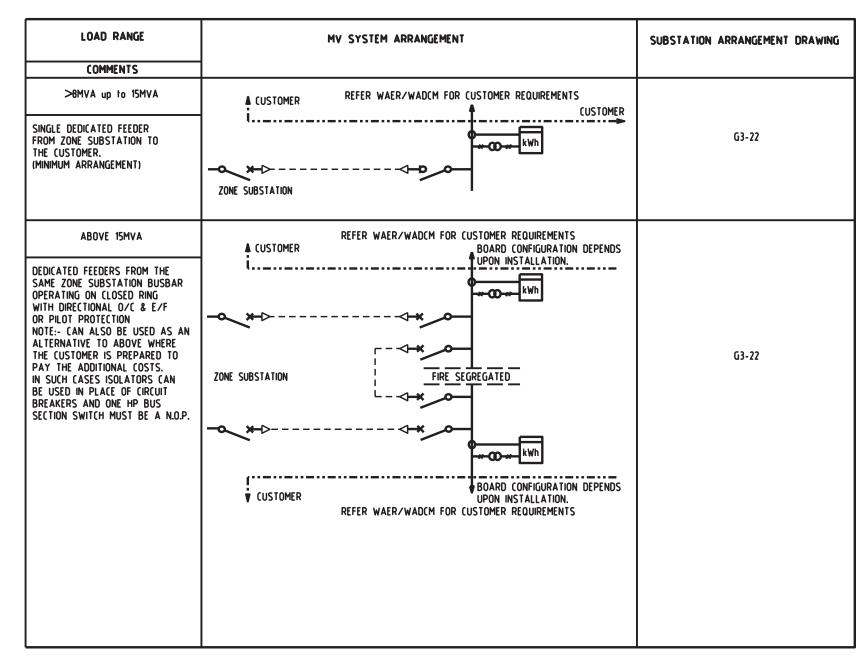
ORIZON

POWER

DRAWING No.

œ FEB

REVISION DATE EB 18 SIHI **DRAWING** 10 BΕ READ IN CONJUNCTION WITH ΤHE DISTRIBUTION DESIGN RULES . HPC-90J-01-0002-2015.

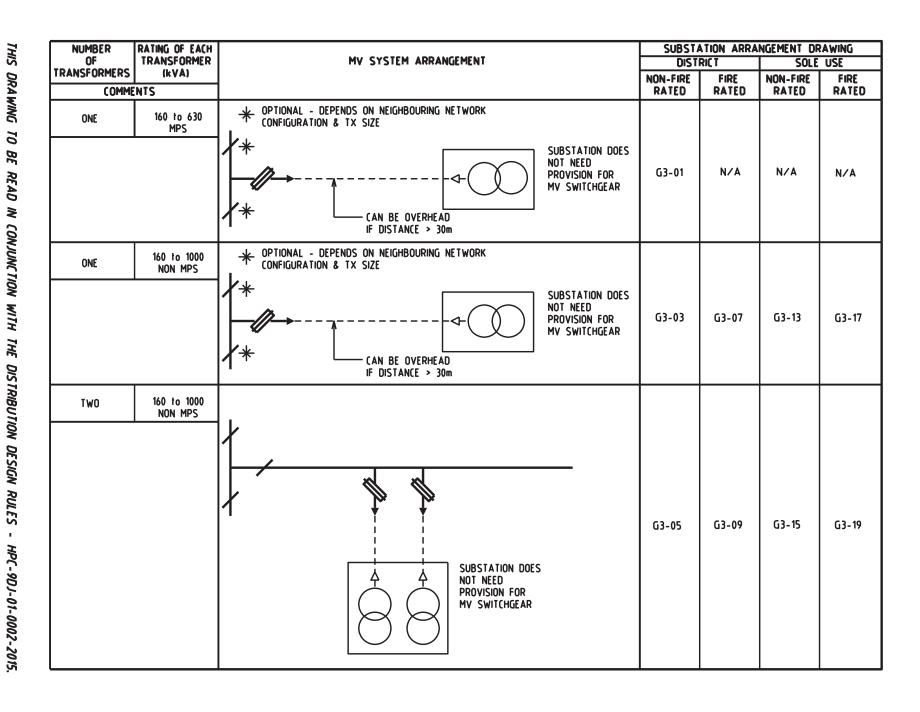


G2-15/1

33kV OVERHEAD SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL RURAL

DRAWING No.

REVISION Β FEB DATE EB 18



DISTRIBUTION CONSTRUCTION STANDARDS

HORIZON

POWER

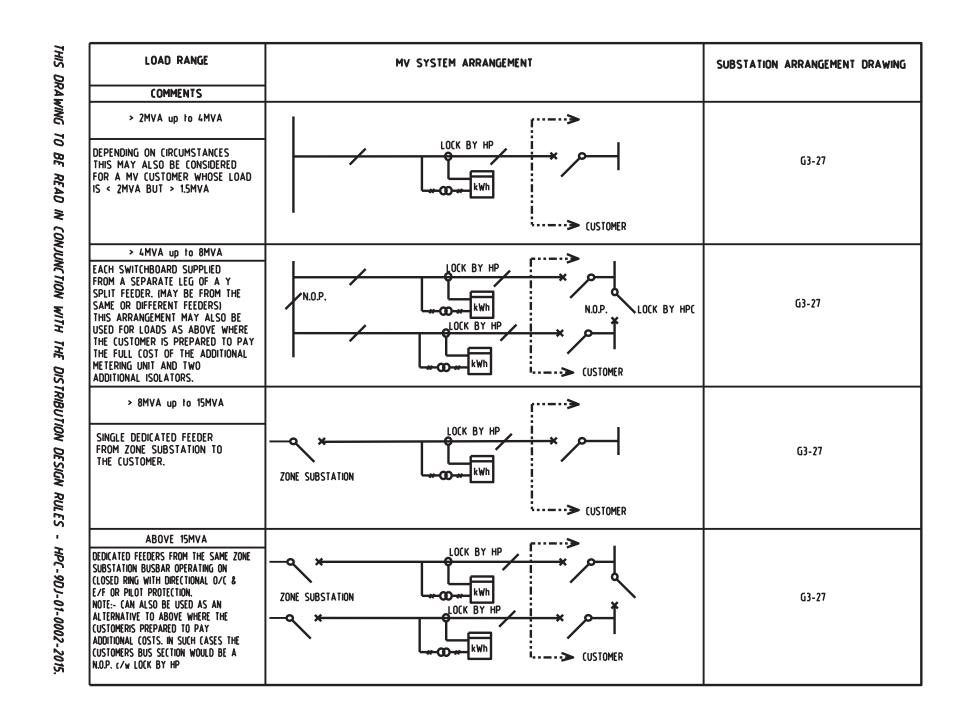
DISTRIBUTION CONSTRUCTION STANDARDS POWER 33kV OVERHEAD SUPF CUSTOMER OWNED SUBSATION, TYPICAL I SUPPL RURAL \prec DRAWING G2-16/1 No.

REVISION

σ

DATE FEB 18

ORIZON



G2-17/1

DRAWING No.

REVISION B

DATE FEB 18

33kV UNDERGROUND SUPPLY DISTRICT AND SOLE USE SUBSATION, TYPICAL URBAN AND RURAL

HORIZON POWER DISTRIBUTION CONSTRUCTION STANDARDS

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.

NUMBER RATING OF EACH OF TRANSFORMER		MV SYSTEM ARRANGEMENT	SUBST / DIST		ANGEMENT DRAWING		
TRANSFORMERS	(kVA)		FIRE RATED	NON-FIRE RATED	FIRE		
ONE REMOTE FUSE SW	160 to 630 MPS		G 3-01	N/A	N/A	N/A	
ONE MV SWITCHGEAR SUBSTATION LOCA 30m OF PROPERT	ATED WITHIN		G3-02	N/A	NZA	N/A	
ONE MV SWITCHGEAR SUBSTATION LOCA THAN 30m FROM BOUNDARY	ATED MORE	RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27)	N/A	N/A	NZA	N⁄A	
one Remote fuse sw	160 to 1000 NON MPS		G3-03	G3-07	G3-13	G3-17	

DRAWING No. G2-17/2

REVISION B

DATE FEB 18

33kV UNDERGROUND SUPPLY DISTRICT AND SOLE USE SUBSTATION, TYPICAL URBAN AND RURAL

HORIZON POWER DISTRIBUTION CONSTRUCTION STANDARDS

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.

NUMBER OF TRANSFORMERS	RATING OF EACH TRANSFORMER	MV SYSTEM ARRANGEMENT	SUBSTATION ARRA		ANGEMENT DRAWING SOLE USE	
			NON-FIRE	FIRE	NON-FIRE	FIRE
COMME	NTS		RATED	RATED	RATED	RATED
ONE MV SWITCHGEAR R SUBSTATION LOCA WITHIN 30m OF PR BOUNDARY - (REF	TED OPERTY		G3-04	G3-08	G3-14	G3-18
ONE MV SWITCHGEAR R SUBSTATION LOCAT THAN 30m FROM P BOUNDARY - (REF	TED MORE ROPERTY	RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27)	N/A	NZA	G3-13	G3-17
TWO SUBSTATION LOCAT OF PROPERTY BOUN NOTE 2). WHERE ON CAN PROVIDE FOR T CUSTOMER MUST PA COST DIFFERENCE B THE APPROPRIATE S TRANSFORMER ARRA	IDARY - IREF IE TRANSFORMER THE LOAD, THE AY THE FULL ETWEEN THIS & SINGLE		G3-06	G3-10	G3-16	G3-20
TWO SUBSTATION LOCAT 30m FROM PROPERT (REF NOTE 2), WHEF TRANSFORMER CAN THE LOAD, THE CUS PAY THE FULL COS BETWEEN THIS & T SINGLE TRANSFORM	Y BOUNDARY - Re one Provide for Stomer Must T Difference He Appropriate	RMU TO BE INSTALLED WITHIN 5m OF PROPERTY BOUNDARY (G3-27)	N⁄A	NZA	G3-15	G3-19

DIST							
RIB 🔪	THIS	NUMBER RATING OF EACH OF TRANSFORMER	MV SYSTEM ARRANGEMENT			ANGEMENT DRAWING SOLE USE	
UTION		TRANSFORMERS (kVA)	HA SISIELI WKKWUGUEUI	NON-FIRE RATED	FIRE RATED	NON-FIRE RATED	FIRE RATED
POWER DISTRIBUTION CONSTRUCTION STANDARDS	IE READ	THREE OR FOUR 160 to 1000 NON MPS WHERE THE TRANSFORMERS ARE TO BE LOCATED WITHIN 30m OF THE BOUNDARY, THE MV SWITCHROOM CAN BE ADJACENT TO THE TRANSFORMERS. HOWEVER WHERE THE TRANSFORMERS ARE TO BE LOCATED MORE THAN 30m FROM THE	Image: Description of the second s				KALU
33kV UNDERC DISTRICT A SUBSTATION, TYPI	ONJUNCTION WITH THE	BOUNDARY THE MV SWITCHROOM IS TO BE LOCATED SEPARATELY FROM THE TRANSFORMERS & SHOULD BE WITHIN 5m OF THE BOUNDARY. WHERE LESS TRANSFORMERS CAN PROVIDE FOR THE LOAD, THE CUSTOMER MUST PAY THE FULL COST DIFFERENCE BETWEEN THIS & THE MINIMUM ARRANGEMENT.		N/A	N/A	N/A	G3-21
33kV UNDERGROUND SUPPLY DISTRICT AND SOLE USE ATION, TYPICAL URBAN AND RURAL	DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.						
B FER DRAWING No. G2-17/3	-						
5. 73							

DISTRIBUTION CONSTRUCTION STANDARDS SIHI LOAD RANGE **MV SYSTEM ARRANGEMENT** SUBSTATION ARRANGEMENT DRAWING ORIZIN **DRAWING** COMMENTS POWER SEE DSM 1-10 FOR CUSTOMER REQUIREMENTS NON-FIRE RATED FIRE RATED >2MVA up to 4MVA 10 G3-22 G3-23 DEPENDING ON CIRCUMSTANCES BΕ THIS ARRANGEMENT MAY ALSO BE CUSTOMER kWh READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES CONSIDERED FOR A MV CUSTOMER WHOSE LOAD IS ≤2MVA BUT > 1.5MVA Т 33kV / UNDERGROUND CUSTOMER OWNI ON, TYPICAL URE SEE G1-10 FOR CUSTOMER REQUIREMENTS BOARD CONFIGURATION DEPENDS UPON INSTALLATION. > 4MVA up to 8MVA G3-22 G3-23 **L** CUSTOMER MAX LOAD ON EACH BOARD IS 4MVA DUND SUPPLY OWNED L URBAN AND EACH SWITCHBOARD SUPPLIED FROM A SEPARATE LEG OF A Y SPLIT FEEDER (MAY BE FROM THE SAME OR DIFFERENT FEEDERS) N.O.P. AT EITHER ISOLATOR FIRE SEGREGATED . HPC-9DJ-01-0002-2015. kWh DRAWING **REVISION** BOARD CONFIGURATION DEPENDS UPON INSTALLATION. 1 σ **CUSTOMER** MAX LOAD ON EACH BOARD IS 4MVA SEE G1-10 FOR CUSTOMER REQUIREMENTS No. FEB DATE EB 18

SUBSTATION,

AND

RURAL

G2-

18/1

G2 -18/2 DRAWING No.

DISTRIBUTION CONSTRUCTION STANDARDS

SUBSTATION

33kV

/ UNDERGROUND CUSTOMER OWNI ON, TYPICAL URE

OWNED

URBAN

AND

RURAL

ORIZON

POWER

œ FEB DATE EB 18

REVISION

SIHI **DRAWING** 10 BΕ READ IN CONJUNCTION WITH ΤHE DISTRIBUTION DESIGN RULES . HPC-90J-01-0002-2015.

