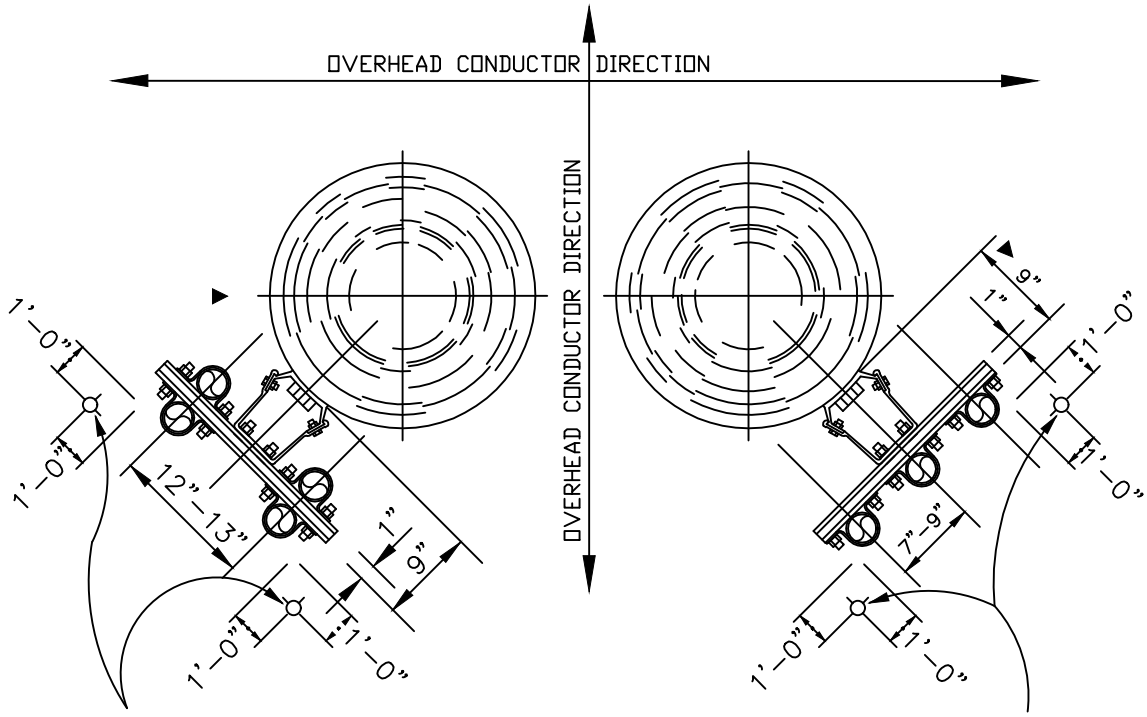
aes Indiana



7' CONCRETE FILLED 6" STEEL POST 4'-0" ABOVE GRADE, SET IN CONCRETE. (SEE NOTE 4) ◄

TOP VIEW

4 CONDUITS CONFIGURATION

7' CONCRETE FILLED 6" STEEL POST 4'-0" ABOVE GRADE, SET IN CONCRETE. (SEE NOTE 4) ◄

TOP VIEW

1, 2, AND 3 CONDUIT CONFIGURATIONS

NOTES:

►1. FOUR 4" CONDUITS ARE THE MAXIMUM THAT MAY BE PLACED ON A POLE (2 CONDUITS MAXIMUM IF NO TRUCK ACCESS).

2. ENGINEERING DEPARTMENT TO BE CONTACTED FOR PROPER PLACEMENT OF CONDUITS.

3. PLACE CONDUIT STUBS A MINIMUM OF (6") TO A MAXIMUM OF (12") ABOVE GRADE. (USE 4" X 36" MINIMUM RADIUS ELBOW).

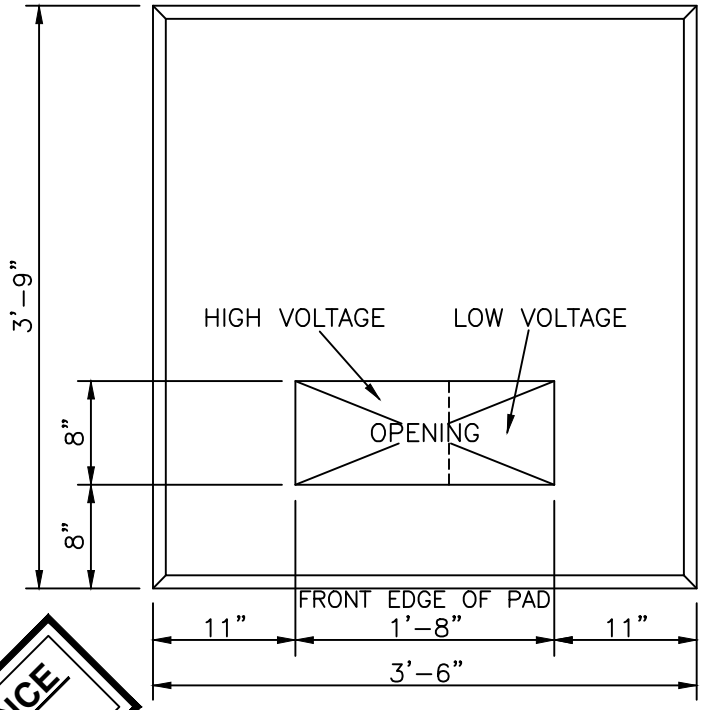
►4. IF EXPOSED TO VEHICULAR TRAFFIC, CUSTOMER SHALL PROVIDE AND INSTALL PROTECTIVE POSTS, AS APPROVED BY THE COMPANY.

STANDARD STANDOFF SPACING AND RISER ARRANGEMENTS 1600 A MAXIMUM

REV 6-13-97

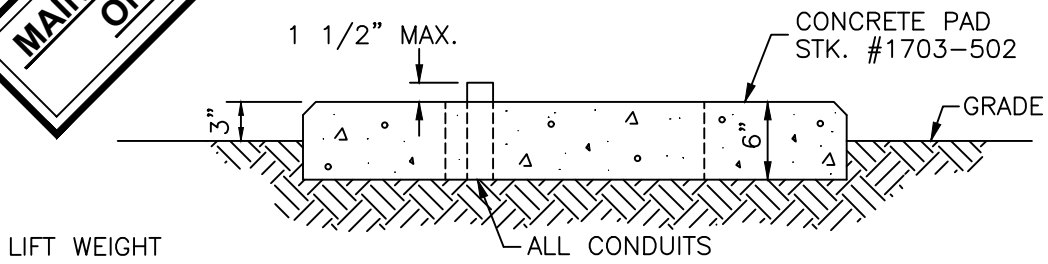
GB7-010

aes Indiana



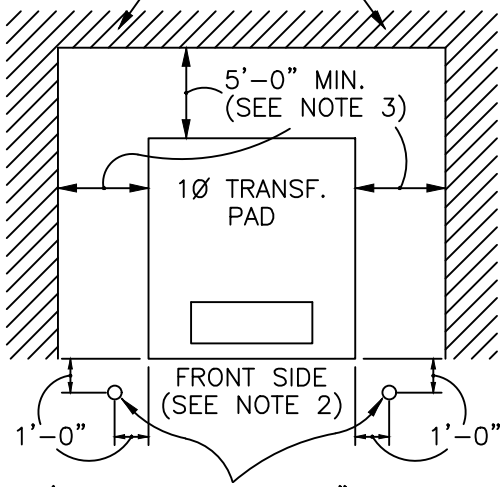
PLAN VIEW

MAINTENANCE ONLY



LIFT WEIGHT
900 LB.

CROSS SECTION



7' CONCRETE FILLED 6" STEEL POST 4'–0" ABOVE GRADE SET IN CONCRETE. (SEE NOTE 1)

NOTES:

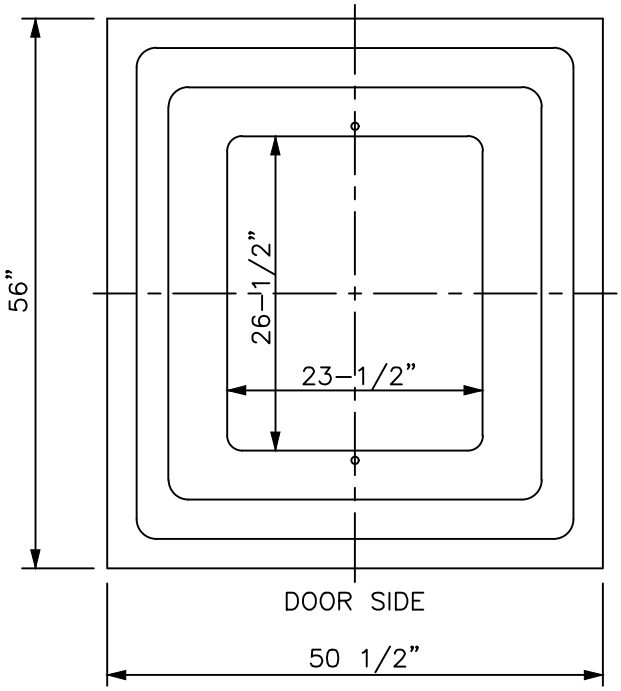
1. CUSTOMER SHALL FURNISH AND INSTALL POSTS TO PROTECT TRANSFORMER WHEN EXPOSED TO VEHICULAR TRAFFIC.
2. FOR OPERATION OF THE TRANSFORMER WITH A HOTSTICK, 10 FT. CLEARANCE SHALL BE MAINTAINED ON FRONT SIDE OF PAD, SEE SECTION 225.
3. IF ADJACENT TO WINDOW, DOOR, COMBUSTIBLE WALL OR OVERHANG, THE MINIMUM DISTANCE SHALL BE TEN FEET.
4. ALL BACKFILL UNDER PAD TO BE THOROUGHLY COMPACTED IN SOLID LAYERS NOT TO EXCEED 6 IN.
5. TRANSFORMER PAD SHALL NOT BE SET ON PAVEMENT.
6. METALLIC CONDUITS SHALL NOT BE INSTALLED IN PAD MOUNTED TRANSFORMERS.
7. NO CUSTOMERS GROUNDING GRIDS OR GROUNDING ELECTRODE CONDUCTORS MAY BE CONNECTED AT PAD MOUNTED TRANSFORMER LOCATIONS.
8. MAXIMUM – 4 CONDUITS, ONE CIRCUIT PER CONDUIT, REFER TO SECTION 220A3c EXCEPTION.

CONCRETE PAD FOR SINGLE PHASE TRANSFORMER 25-250 KVA

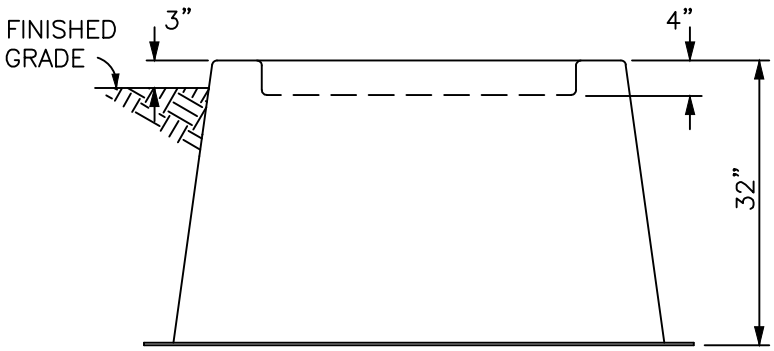
REV 10–9–09

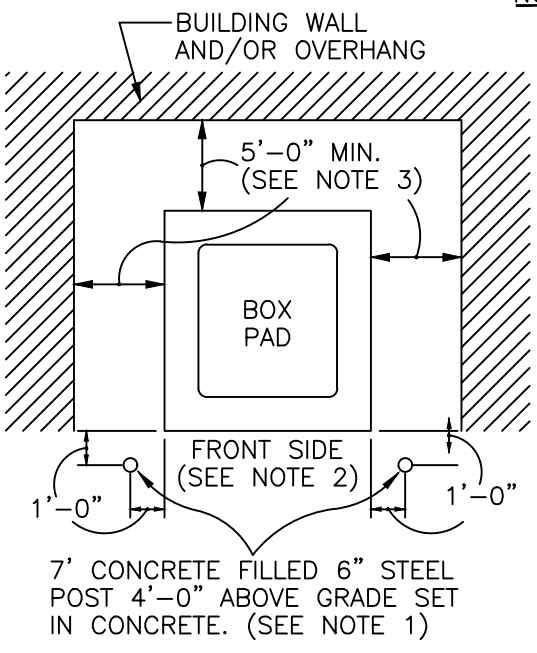
GB7-020

aes Indiana



BOX PAD
STOCK #1203–101





NOTES:

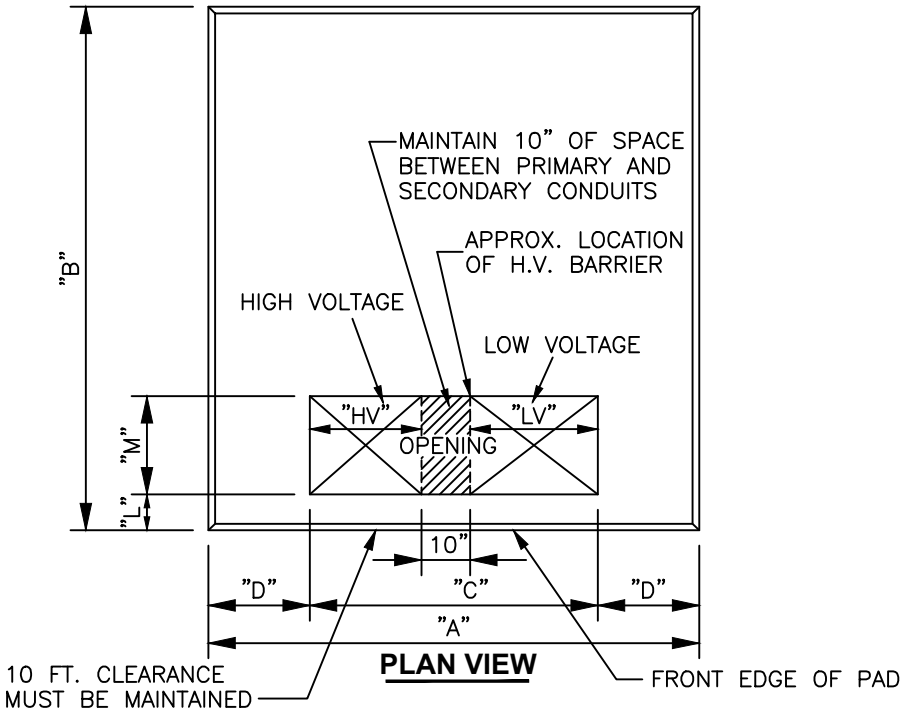
1. CUSTOMER SHALL FURNISH AND INSTALL POSTS TO PROTECT TRANSFORMER WHEN EXPOSED TO VEHICULAR TRAFFIC.
2. FOR OPERATION OF THE TRANSFORMER WITH A HOTSTICK, 10 FT. CLEARANCE SHALL BE MAINTAINED ON FRONT SIDE OF PAD, SEE SECTION 225.
3. IF ADJACENT TO WINDOW, DOOR, COMBUSTIBLE WALL OR OVERHANG, THE MINIMUM DISTANCE SHALL BE TEN FEET.
4. ALL BACKFILL UNDER PAD TO BE THOROUGHLY COMPACTED IN SOLID LAYERS NOT TO EXCEED 6”.
5. METALLIC CONDUITS SHALL NOT BE INSTALLED IN PAD MOUNTED TRANSFORMERS.
6. NO CUSTOMERS GROUNDING GRIDS OR GROUNDING ELECTRODE CONDUCTORS MAY BE CONNECTED AT PAD MOUNTED TRANSFORMER LOCATIONS.
7. MAXIMUM – 4 CONDUITS, ONE CIRCUIT PER CONDUIT, REFER TO SECTION 220A3c EXCEPTION.
8. UNDER NO CIRCUMSTANCES IS THE BOX PAD PERMITTED TO BE DRILLED, CUT, OR OTHERWISE MODIFIED. SEE SECTION 220A3a.

TRANSFORMER BOX PAD FOR SINGLE PHASE TRANSFORMER 25-250 KVA

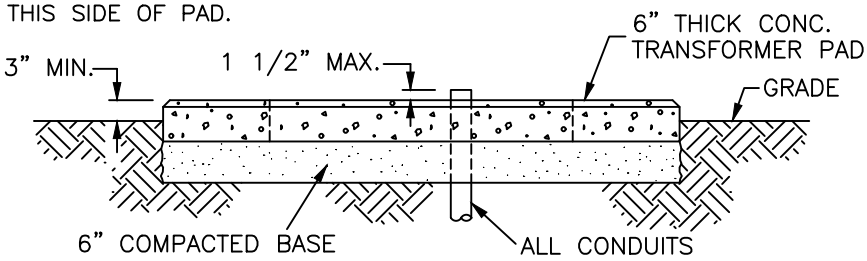
REV 10–9–09

GB7-030

aes Indiana



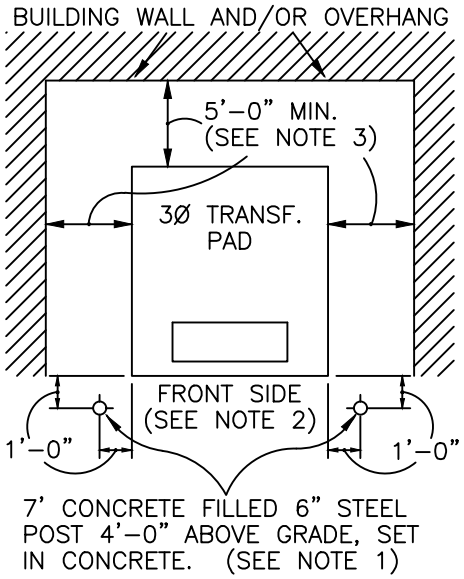
PLAN VIEW



CROSS SECTION

STOCK NO.	KVA	TRANSF. WEIGHT	A	B	C	D	L	M	LV	HV
1703-506	75-300	5800	75	80	44	15 1/2	5 1/2	15	19 1/2	14 1/2
1703-507	500-1000	10,100	84	84	44	20	5 1/2	15	19 1/2	14 1/2
1703-508	1500-2500	12,600	84	84	48	18	9	17	23 1/2	14 1/2

ALL DIMENSIONS ARE IN INCHES



NOTES:

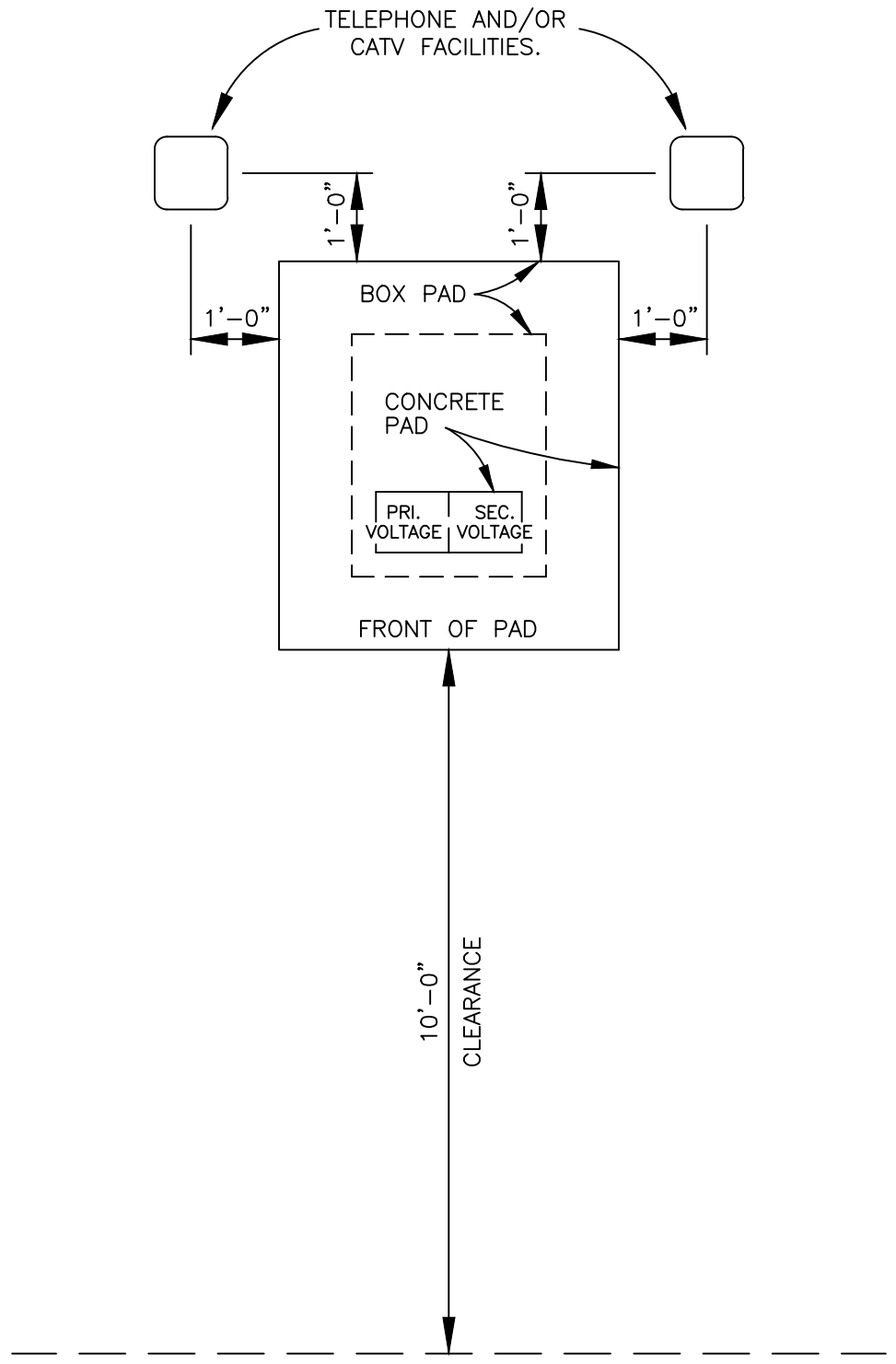
1. CUSTOMER SHALL FURNISH AND INSTALL POSTS TO PROTECT TRANSFORMER WHEN EXPOSED TO VEHICULAR TRAFFIC.
2. FOR OPERATION OF THE TRANSFORMER WITH A HOTSTICK, 10 FT. CLEARANCE SHALL BE MAINTAINED ON FRONT SIDE OF PAD, SEE SECTION 225.
3. IF ADJACENT TO WINDOW, DOOR, COMBUSTIBLE WALL OR OVERHANG, THE MINIMUM DISTANCE SHALL BE TEN FEET.
4. ALL BACKFILL UNDER PAD TO BE THOROUGHLY COMPACTED IN SOLID LAYERS NOT TO EXCEED 6 IN.
5. TRANSFORMER PAD SHALL NOT BE SET ON PAVEMENT.
6. METALLIC CONDUITS SHALL NOT BE INSTALLED IN PAD MOUNTED TRANSFORMERS.
7. NO CUSTOMERS GROUNDING GRIDS OR GROUNDING ELECTRODE CONDUCTORS MAY BE CONNECTED AT PAD MOUNTED TRANSFORMER LOCATIONS.
8. THE TRANSFORMER PAD SHALL BE WITHIN 12' OF PAVEMENT
9. MAXIMUM – 8 CONDUITS, ONE CIRCUIT PER CONDUIT. REFER TO SECTION 220A3c EXCEPTION
10. ▶ THE COMPANY WILL FURNISH AND SET THE PRECAST TRANSFORMER PAD. PAD AND TRANSFORMER SHALL BE SET BEFORE ANY CONDUCTORS ARE INSTALLED BY THE CUSTOMER. THE DIMENSIONS ARE FOR LOCATING THE PAD AND CONDUIT.

CONCRETE PAD FOR THREE PHASE TRANSFORMER 75-2500 KVA

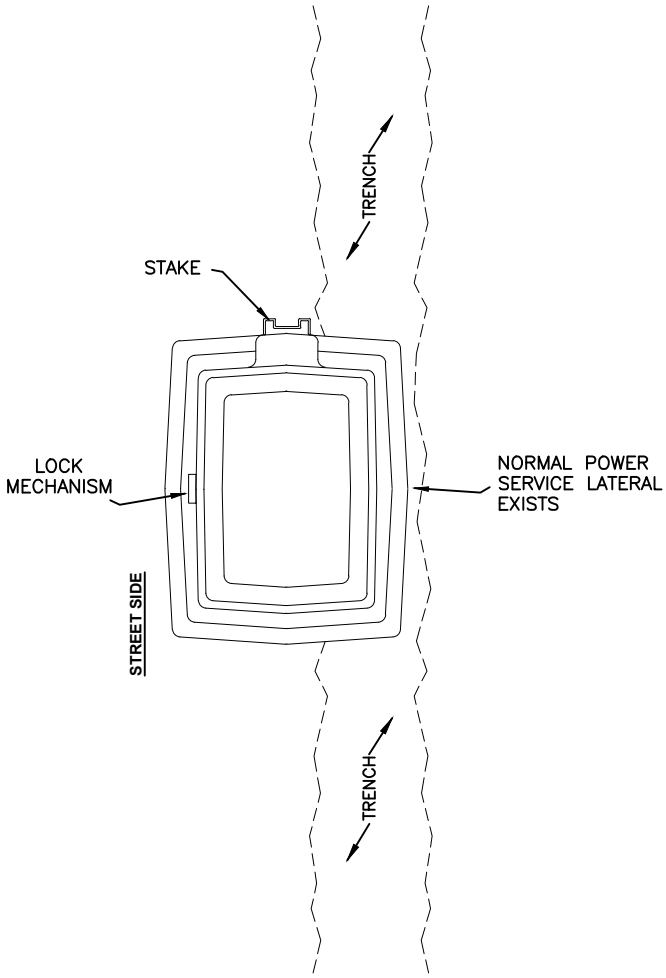
REV 11-22-11

GB7-040

aes Indiana



CLEARANCE OF TELEPHONE AND/OR CABLE TV FACILITIES FROM COMPANY PAD MOUNTED GEAR



TOP VIEW

NOTE:

1. COMMUNICATION PEDESTAL LOCATIONS MAY NOT BE ANY CLOSER THAT 2 FEET OFF THE FOUR CORNERS OF THE POWER SERVICE PEDESTAL AND MUST BE INSTALLED ON THE DIAGONAL.

NORMAL SPACING FOR AES INDIANA, TELEPHONE AND COMMUNICATIONS FACILITIES

REV NEW 12–21–22

GB7-055

aes Indiana

Pole Mounted Transformers						
Single Phase			Three Phase			
kVA	120/240	240/480	208Y/120	240Δ/120	480Y/277	kVA
10	4,700/3,500					10
15	6,500/4,800					15
25	11,000/7,700	6,000/4,200				25
37.5	18,200/11,000					37.5
50	24,900/16,700	9,600/8,700				50
75	32,900/21,600	17,300/11,400	14,800	12,800		75
100	45,600/29,800	28,800/18,800				100
112.5			22,300	21,200		112.5
150			29,800	25,800	14,600	150
167.5	64,100/41,000	36,400/23,200				167.5
225			43,100	37,400		225
250	86,500/55,200	35,600/22/700				250
300			59,500	51,600	27,800	300
333	97,700/62,300	63,400/40,400				333
500		95,700/61,000	70,800	70,800	46,300	500
750			45,500	95,500	40,300	750
1000			107,900	107,900	81,900	1000
1500					131,700	1500

Pad Mounted Transformers						
Single Phase			Three Phase			
kVA	120/240	240/480	208Y/120	240Δ/120 OH on Pad	480Y/277	kVA
25	11,600/8,100	4,700/3,300				25
50	22,100/14,800	11,500/7,700				50
75	33,100/21,700		13,600	12,800	6,900	75
100	49,100/32,100					100
112.5				21,200		112.5
150			27,400	25,800	11,500	150
167.5	66,900/42,700					167.5
225				37,400		225
250	100,400/63,900					250
300			47,600	51,600	21,900	300
500			70,500	70,800	35,000	500
750			39,200	95,500	17,000	750
1000			52,200	107,900	22,700	1000
1500					34,000	1500
2000					45,300	2000
2500					56,600	2500

The maximum available calculated fault currents are given in amperes, RMS symmetrical, at the secondary bushings of the Company's transformer, assuming an infinite bus and a bolted fault. The intent of these values is to serve as a guide in the selection of the proper service and downstream equipment. These are of no value for the use in determining the proper personal protection equipment. For PPE selection in compliance with NFPA 70E, see Section 112.

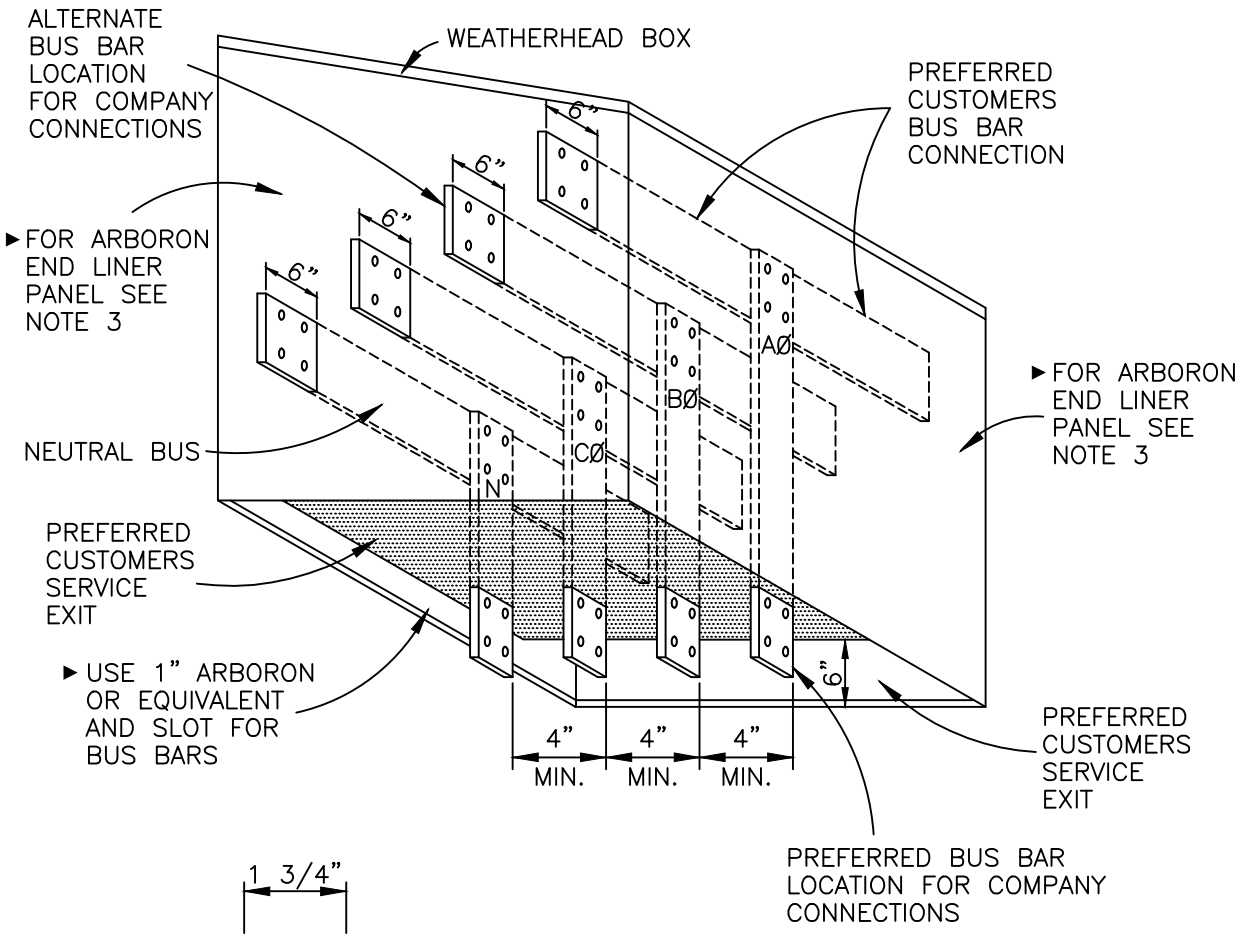
The single phase fault values are calculated from phase-to-neutral **/** phase-to-phase (phase to neutral is shown first).

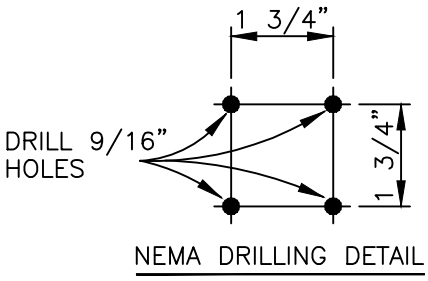
MAXIMUM AVAILABLE CALCULATED FAULT CURRENTS

REV 6-6-17

GB7-060

aes Indiana





NEMA DRILLING DETAIL

NOTES:

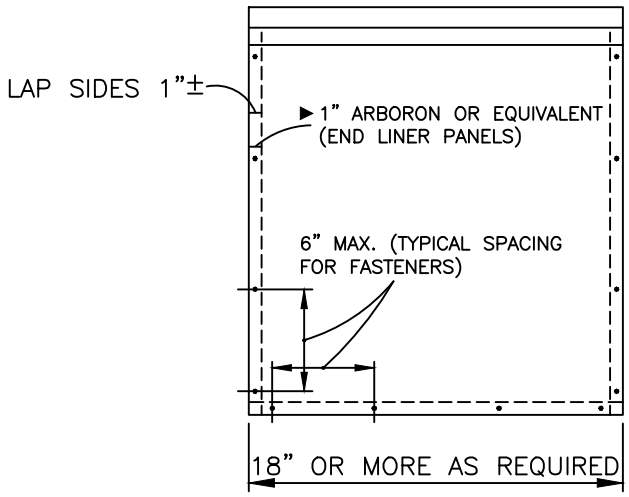
1. MINIMUM SIZE 1/4" x 3" BUS BAR PER PHASE OR AS REQUIRED.
2. PROVIDE NEMA DRILLING IN BUS BARS FOR CONNECTION OF CABLE LUGS. SEE DETAIL.
3. ▶ USE 1" ARBORON OR EQUIVALENT ON END LINER PANELS. IF BUS BARS PROTRUDE THRU BOTTOM OR SIDE OF CABINET THEY SHALL BE ADEQUATELY FASTENED TO PREVENT MOVEMENT.
4. SPREAD LOAD CONDUCTORS ON BUS BARS TO EQUALIZE CURRENT FLOW. LARGE SERVICES CAN BE IN METAL DUCTS, CONDUIT OR BUS DUCT AS REQUIRED. COMPANY TO FURNISH CONNECTORS TO ATTACH COMPANY SERVICE TO BUS.
5. FOR BOX FABRICATION DETAILS SEE DRAWING GB7–080
6. DESIGN FOR AVAILABLE FAULT CURRENT.
7. THE COMPLETE INSTALLATION SHALL BE SUBJECT TO APPROVAL OF THE COMPANY'S ENGINEERING DEPARTMENT.

TYPICAL WEATHERHEAD BOX INTERIOR DETAILS 600 VOLTS AND BELOW, 3 PHASE ONLY

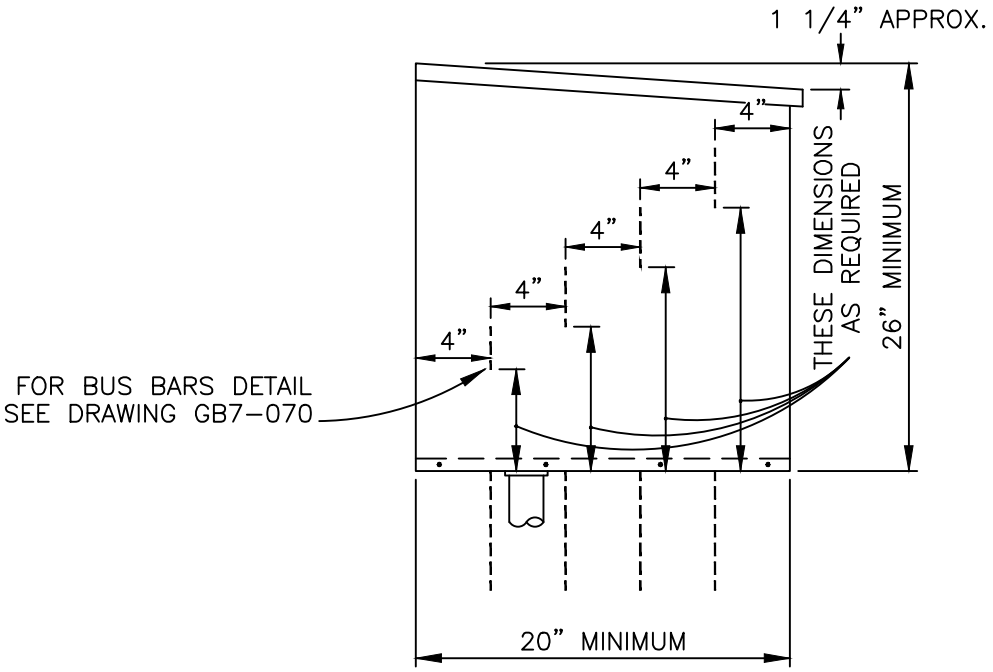
REV 2–27–96

GB7-070

aes Indiana



FRONT FACE



END VIEW

NOTES :

▶1. 1" ARBORON OR EQUIVALENT END LINER PANELS. SLOT TO 3/4" DEPTH TO RECEIVE BUS BARS.

2. 12 GAGE SHEET METAL SHALL BE USED.

3. STEEL JUNCTION BOX SHALL BE GALVANIZED OR SHOP PAINTED WITH A RUST INHIBITING PAINT INSIDE AND OUTSIDE AFTER FABRICATION. ANY HOLE OR HOLES DRILLED AFTER GALVANIZING OR PAINTING SHALL BE TREATED WITH RUST INHIBITING PAINT.

4. IF REMOVABLE FRONT, IT MUST BE SUITABLE FOR WET LOCATIONS.

5. DESIGN FOR AVAILABLE FAULT CURRENTS.

6. IDENTIFY RISERS FOR VARIOUS CUSTOMERS BY SERVICE ADDRESS WITH WEATHER PROOF MARKINGS.

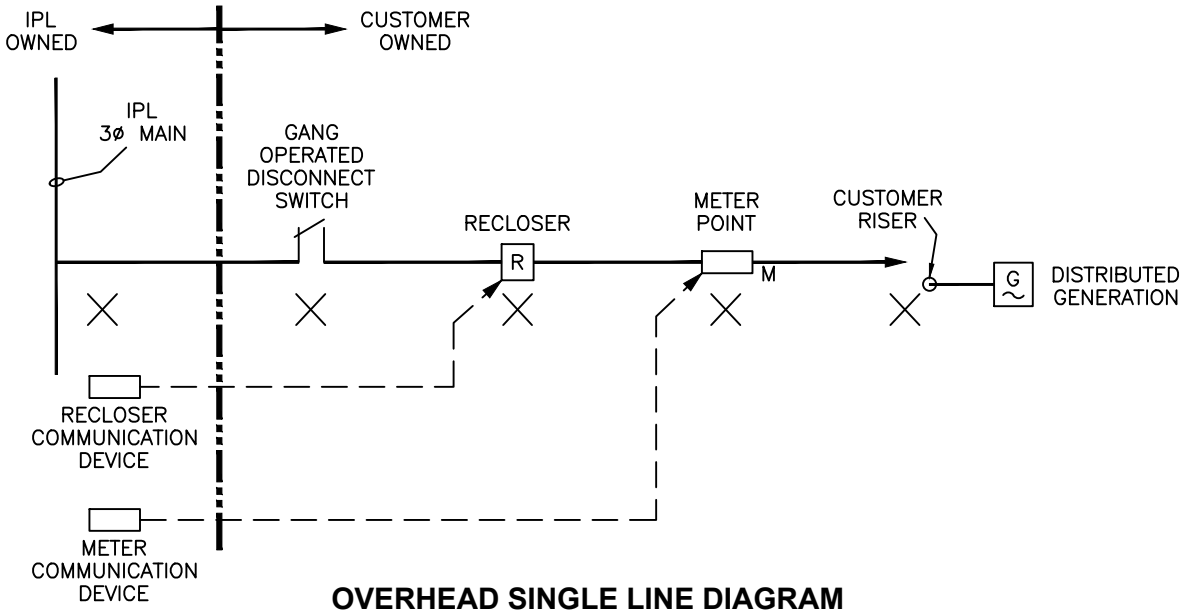
TYPICAL WEATHERHEAD BOX FABRICATION DETAILS 600 VOLTS AND BELOW, 3 PHASE ONLY

REV 2-27-96

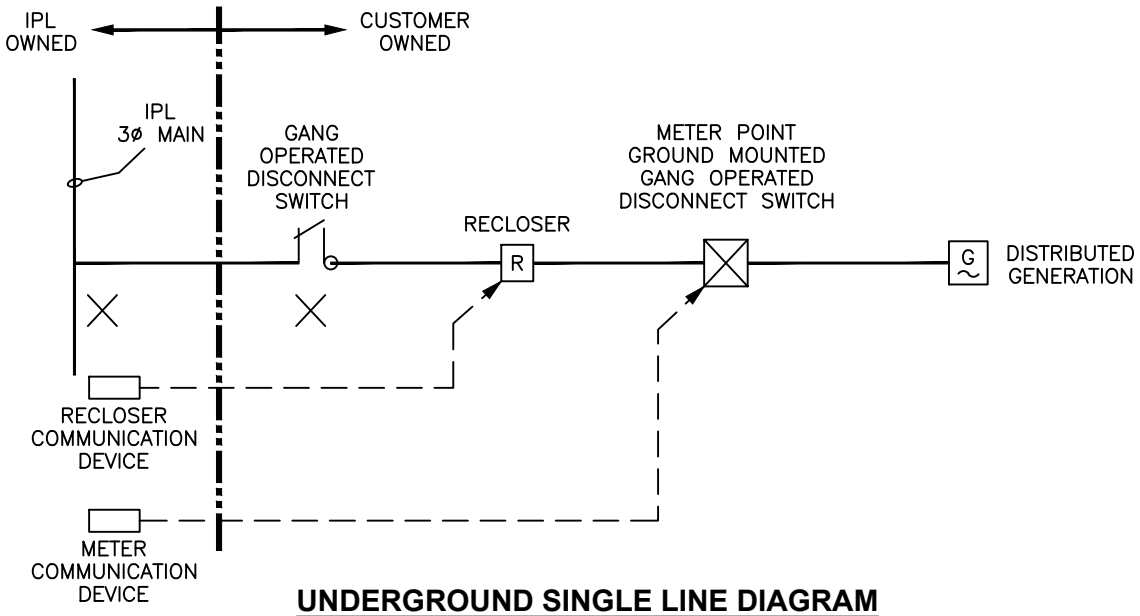
GB7-080

ALL RENEWABLE ENERGY GENERATORS WITH 4.1KV OR 13.2KV INTERCONNECTIONS MUST HAVE A GANG OPERATED DISCONNECT SWITCH, RECLOSER, AND A 4.1KV OR 13.2KV METER POINT, BETWEEN THE IPL DISTRIBUTION CIRCUIT AND THE RENEWABLE GENERATION.

SEE ELECTRIC SERVICE AND METER MANUAL SECTION 175



OVERHEAD SINGLE LINE DIAGRAM



UNDERGROUND SINGLE LINE DIAGRAM

NOTES:

1. DISTRIBUTED GENERATION INTERCONNECTION GREATER THAN 1500KVA MUST BE CONNECTED AT PRIMARY VOLTAGE LEVEL.
2. DISTRIBUTED GENERATION INTERCONNECTION 500KVA OR GREATER MAY HAVE A FIBER COMMUNICATIONS TIE TO AN IPL SUBSTATION.

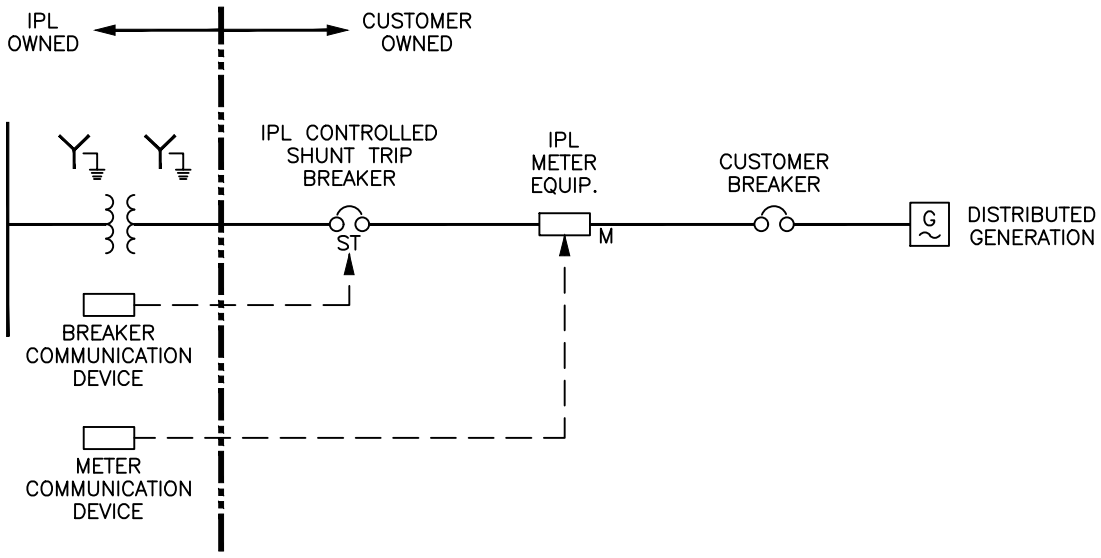
4.1 KV OR 13.2 KV DISTRIBUTION INTERCONNECTION ONE-LINE

REV 2–20–13

GB7-090

ALL RENEWABLE ENERGY GENERATORS 500KVA TO 1500KVA WITH SECONDARY 208V Y OR 480V Y INTERCONNECTIONS MUST HAVE A REMOTELY OPERATED SHUNT TRIP BREAKER, METER POINT AND CUSTOMER CONTROLLED DISCONNECT BREAKER.

SEE ELECTRIC SERVICE AND METER MANUAL SECTION 175



UNDERGROUND/OVERHEAD SINGLE LINE DIAGRAM

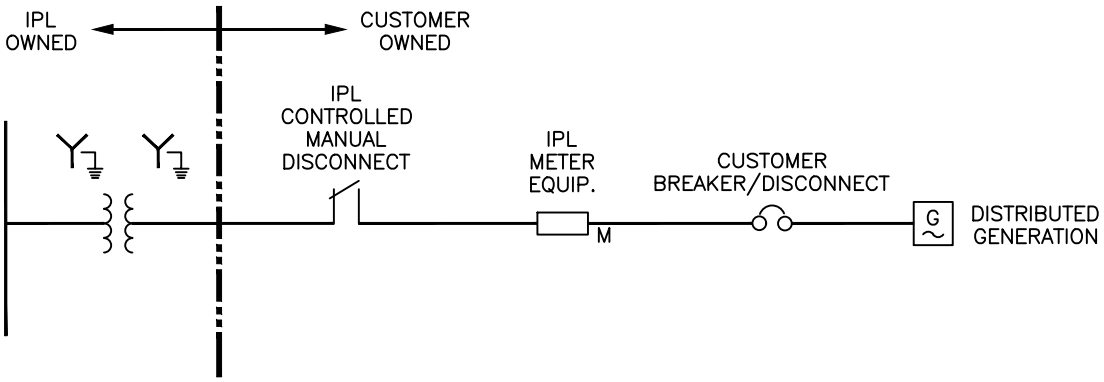
NOTES:

1. ANY DISTRIBUTED GENERATION INTERCONNECTION GREATER THAN 1500KVA MUST BE CONNECTED AT PRIMARY VOLTAGE LEVEL.
2. NO DISTRIBUTED GENERATION INTERCONNECTION SHALL BE MADE TO DELTA CONNECTED SECONDARY TRANSFORMER CONFIGURATIONS.
3. THE TRANSFORMER, ASSOCIATED LINES AND COMMUNICATIONS DEVICES, SPECIFICALLY FOR SOLAR GENERATION, WILL BE LEASED TO THE CUSTOMER.

208V OR 480V 3-PHASE SECONDARY DISTRIBUTION INTERCONNECTION ONE-LINE 500KVA TO 1500KVA

ALL RENEWABLE ENERGY GENERATORS LESS THAN 500KVA WITH SECONDARY 208V Y OR 480V Y INTERCONNECTIONS MUST HAVE AN IPL CONTROLLED MANUAL DISCONNECT, METER POINT AND CUSTOMER CONTROLLED DISCONNECT BREAKER.

SEE ELECTRIC SERVICE AND METER MANUAL SECTION 175



UNDERGROUND/OVERHEAD SINGLE LINE DIAGRAM

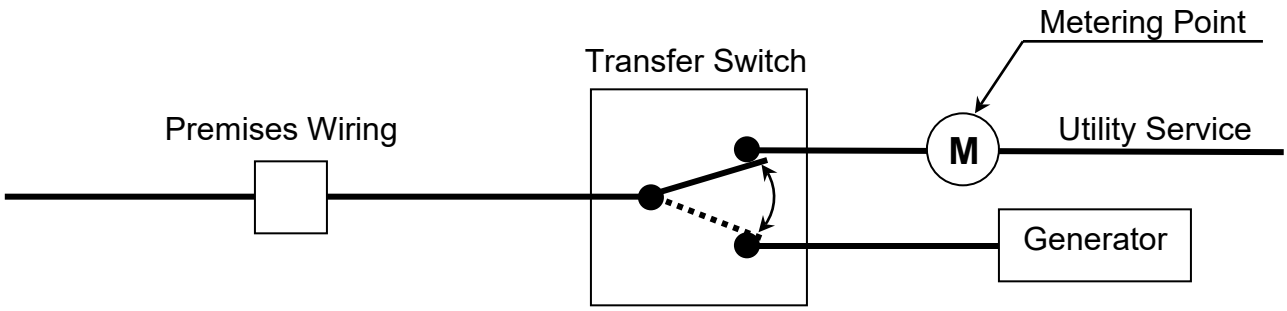
NOTES:

1. ANY DISTRIBUTED GENERATION INTERCONNECTION GREATER THAN 1500KVA MUST BE CONNECTED AT PRIMARY VOLTAGE LEVEL.
2. NO DISTRIBUTED GENERATION INTERCONNECTION SHALL BE MADE TO DELTA CONNECTED SECONDARY TRANSFORMER CONFIGURATIONS.
3. THE TRANSFORMER, ASSOCIATED LINES AND COMMUNICATIONS DEVICES, SPECIFICALLY FOR SOLAR GENERATION, WILL BE LEASED TO THE CUSTOMER.

208V OR 480V 3-PHASE SECONDARY DISTRIBUTION INTERCONNECTION ONE-LINE LESS THAN 500KVA

All systems that have a generator connection shall have a transfer switch to positively eliminate feedback into the source system. The switch shall not allow both sources to be connected together. However, Section 175B may be used for Auxiliary Power Installations for Interconnected Operation if the proper approval and agreements are obtained. This requirement is in accordance with the Indiana Electrical Code, Sections 700.6, 701.7, and 702.6.

See the Electric Service and Meter Manual Section 175



Single Line Diagram
(This is for a typical installation)

▶ Notes:

1. Metered and unmetered conductors shall not be installed in the same meter fitting, raceway, junction box, or switch. Exception are the load conductors that originate in the meter fitting.

2. A sign shall be placed at the service-entrance equipment indicating the type and location of on-site standby power sources. Indiana Electrical Code, Sections 700.8, 701.9, and 702.8.

TRANSFER SWITCH REQUIRED FOR BACKUP GENERATION