CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
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ELECTRIC METER SHOP
DEPARTMENT

METER ENGINEERING SPECIFICATION – 350
REVISION 5

High Tension Metering Installations General Requirements

PREPARED BY:	**Adam Miller**
TARGET AUDIENCE	**ELECTRIC OPERATIONS -Meter & Test** **CUSTOMER OPERATIONS – SI METER SERVICES** **ELECTRIC METER SHOP**
REVIEWED BY:	**METER ENGINEERING**
NESC REFERENCE	**Sec. 9, 10, 11, 12, 15, 16, 17, 18, 44**
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APPROVER	**Charles Feldman** **SIGNATURE/DATE** Signature on File – October 4, 2023
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1.0 SCOPE

This Specification supplements EO Specification No. EO-4035 and No. EO-2022, and covers the general requirements for wiring, grounding and mounting facilities for meters and instrument transformers used in revenue metering of electric energy and demand on high tension installations.

2.0 APPLICATION

This specification applies to all regions involved with metering of High Tension Services.

3.0 GENERAL

Instrument transformer wiring, and installation details shall be in accordance with the reference specifications provided by the Company.

4.0 MOUNTING FACILITIES FOR WATTHOUR AND METERING DEVICES

The customer shall furnish and install meter mounting facilities which have Company approval. A list of approved meter mounting equipment is contained in the Company booklet “Requirements for Electric Service Installations” under section "Approved Electric Service Equipment". The installation of this equipment shall be made in accordance with the Company booklet "General Instructions Governing Work on System Electrical Equipment ". Panel mounting may be used in metal-clad and metal enclosed switch-gear in accordance with the requirements of Section 13 when wall mounting of the equipment is impracticable. The Company will furnish and install meters and metering devices.

5.0 MOUNTING FACILITIES FOR INSTRUMENT TRANSFORMERS

The customer shall furnish and install mounting facilities for the Company's metering transformers. These transformers will be furnished by the Company and shall be installed by the customer on initial installation and upon subsequent alteration to the main cable or bus circuit. All instrument transformer mounting facilities are subject to approval by the Company. The customer shall submit drawings showing space allocation and enclosure for the metering transformers for Company approval. Metering transformers may be installed in metal-clad and metal enclosed switchgear in accordance with Section 13.

6.0 PRIMARY WIRING OF CURRENT AND POTENTIAL TRANSFORMERS

6.1 The customer shall make the primary connections to the current and potential transformers. All connections to the primary terminals of current transformers shall be insulated for the line-to-line voltage. Removable bushing type insulators may be used. For potential transformers, if proper clearances exist between the primary terminals and ground the primary terminal connections need not be insulated; if insulated, the insulation shall be for the line-to-line voltage. Revenue metering transformers are included in the high potential proof test in accordance with Spec EO-2022 and EO-4019.

6.2 Current and potential transformers shall be installed with the polarity markings in accordance with the Company's wiring diagrams.

6.3 Primary connections of the potential transformers shall be made on the line side of the current transformers. All primary potential connections shall be No. 6 (minimum) and No. 2 (maximum) AWG copper wire and shall be insulated for the line-to-line voltage.

7.0 SECONDARY WIRING OF CURRENT AND POTENTIAL TRANSFORMERS

7.1 The customer shall furnish and install all wiring and conduit. The material used for the insulation and jacket of the wiring must be environmentally acceptable.

7.2 The current and potential transformer secondary wiring shall be in rigid conduit or in electrical metallic tubing, separate from all other wiring. The instrument transformer secondary wiring of one meter shall not be run in the same conduit with the wiring of another meter. It is preferable that current and potential transformer secondary wiring be in a single conduit for each meter. If two conduits per meter are used, the current transformer secondary wiring shall be in one conduit and the potential transformer secondary wiring shall be in the other conduit. Color-coded wires or multiple-conductor cable, according to N.E.M.A. color coding of control cables, shall be used for current and potential transformer secondary wiring. Color-coded multiple-conductor cable shall consist of No. 9 AWG (19/22) stranded copper or No. 10 AWG solid or stranded copper wire; refer to the National Electrical Code, Table 310-13 for the appropriate wire type designation and specification. The material used for the wire insulation must be environmentally acceptable. Suitable lugs of the closed loop type shall be furnished and installed by the customer for connection of stranded wire to the meter connection block. Solid and stranded wires should not be used on the same lug. If multiple-conductor cables are not used, the current and potential transformer secondary wires shall be No. 10 AWG solid or stranded copper.

7.3 For each meter installation, a single wire shall be used from the common

secondary connection of the potential transformers to the meter connection block. However, a separate return wire is required between each current transformer and the meter connection block. When lugs are used, they shall be the closed loop type.

7.4 The secondary wiring of current and potential transformers shall be continuous without splices. Intermediate terminal blocks shall not be used without specific Company approval. CT and PT secondary wiring shall not pass though the phasing facility box or other company fuse boxes.

7.5 Wiring to the current and potential transformer secondary wires shall be cut and formed to proper length and shall be identified by the customer. The Company will make final connections to the instrument transformer secondary terminals. Connections to the bottom of the meter connection block shall be made by the customer. A minimum length of 18" of No. 10 AWG solid copper wire shall be connected by the customer to each terminal at the top of the meter connection block. The Company will install the watt-hour meter and make the final connection to the meter.

7.6 Current and potential transformers should be located within 25 linear feet of the watt-hour meter. If the distance exceeds 25 feet, the installation is to be referred to the Company for specific approval.

7.7 Short-circuiting wires and tags on current transformers will be removed by Company forces when making connections to the watt-hour meter.

8.0 GROUNDING

8.1 The customer shall furnish, install and connect all ground wires.

8.2 Ground wires shall be continuous without splices or intermediate connections.

8.3 Current and potential transformer secondary connections shall be grounded as close as possible to the instrument transformers, using #10 (minimum) AWG solid or stranded copper wire. The current transformer ground wire shall be separate from the potential transformer ground wire. There shall be no other ground connection to the secondary circuits.

8.4 Instrument transformer cases and meter cases shall be effectively grounded. If the cases are mounted on a grounded metal structure, no additional grounding connections are necessary. If the cases are mounted on an insulated structure, each transformer case shall be grounded with a conductor not smaller than No.6 AWG solid or stranded copper, and each meter case shall be grounded with a conductor not smaller than No. 10 AWG copper. The case ground wires shall be

separate from the ground connections to the instrument transformer secondary wiring.

8.5 Ground connections shall be made to the a-c ground bus or to the primary neutral. For electric service to railway properties, ground connections shall be made to the a-c ground bus, and isolated from the station d-c ground bus. (Refer to Consolidated Edison Co. Specification No. EO-2034).

9.0 FUSING OF POTENTIAL TRANSFORMERS

9.1 Potential transformers shall be fused on the primary side for 13kV and 4 KV Services. All other H.T. Services are not primary fused. The ungrounded conductors of potential transformer secondary wires shall be fused by means of 10 ampere plug fuses mounted in a metal box with a hinged cover provided with facilities to accommodate a meter seal. The fuse box shall be located as near as possible to the potential transformers but not within the transformer compartment and shall be readily accessible. The location shall not be adjacent to exposed high tension equipment so that the fuses may be replaced without hazard, or necessity for de-energizing the high-tension service. Fuse boxes, fuse receptacles, fuses, and all wiring shall be furnished and installed by the customer.

Note: When low-voltage phasing facilities are connected to revenue metering potential transformers, separate secondary fuse facilities shall be provided by the customer for these devices. These fuses shall be located adjacent to the revenue metering fuses in a separate sealable metal box. The fuses and the fuse box shall be similar to that provided for the revenue meters. Each fuse box shall be identified as to its purpose. (Refer to Consolidated Edison Co. Specification No. EO-3299-D for 3 phase-3 wire feeders and Specification No. EO-3477-D for 3 phase-4 wire feeders).

9.2 Current transformer secondary wiring shall not be fused.

10.0 CUSTOMER'S METER AND PROTECTIVE DEVICES

Generally, the Company's meters shall be connected ahead of the customer's energy consuming devices. Written Company approval is to be obtained when connections for neon indicators, phasing facilities or automatic circuit breaker operation must be installed on the line side of the metering transformers. Customer's meters or protective devices shall not be connected to the secondary wires of the Company's metering current or potential transformers. The NYCTA has been granted permission to connect a phase-sequence voltage relay 47 device to the metering voltage transformers, by agreement with the Company.

11.0 METERS AND DEVICES FOR HIGH TENSION METERING

11.1 Reactive meter programming captures kWh and kVarh of load profile data (interval data. A Selcom (telephone multiplexer) or Digi box (external wireless cellular communication module) are types of communication devices connected directly to meters. All the necessary kWh and kVarh interval data are retrieved from the meter and transmitted to the company billing system using landline or wireless cellular technology. The data is used to calculate the customer's consumption and demand. Pulse outputs and associated wiring are no longer used for demand billing.

11.2 Exhibit B is a typical metering layout sketch of a high-tension service.

11.3 All communication wiring (Category 6 cable) and unmetered power (120VAC) wiring by the customer shall be installed in rigid conduit or electrical metallic tubing and be separate from all other wiring. Refer to the National Electrical Code Table 310-13 for the appropriate wire type designations and specifications. The material of the wire insulation and jacket must be environmentally acceptable. Intermediate splices shall not be used without specific Company approval.

11.4 All wiring by the customer to the Meter Device mounting plate (Spec 104) shall be left with 24 inches of slack and to the watt-hour meter equipment, 18 inches of slack.

11.5 Wiring shall not be installed in areas where the maximum temperature can be more than 60 degrees C (140 degrees F).

11.6 All conduits, wiring, wiring boxes, fuses and mounting facilities shall be furnished and installed by customer. The Company will install meter(s), power transfer relay, and meter communication device with antenna identified in Exhibit B. The Company will make final connections to meter, meter communication device and power transfer relay.

11.7 When pulse (KYZ) contacts are requested by customer, they will be provided at each meter location at a demarcation box furnished and installed by Con Edison. The customer is responsible for all connections and wiring to the customer side of the demarcation boxes.

12.0 METER COMMUNICATION MODULE LOCATION

12.1 In general, the meter communication device should be mounted on the Meter Device mounting plate (Spec MES- 104A) along with the Power Transfer relay assembly. Meter data cable / communication wire (Category 6 cable) must

be installed from each meter to the communication device. Unmetered power (120VAC) wiring is to be installed from each meter to the power transfer relay assembly.

12.2 The meter communication device should be located so the wiring requirements are at a minimum.

12.3 For single watt-hour meter installations, the meter communication device shall be located close to the watt-hour meter.

12.4 If the meter communication device requires an antenna, then it should be placed near a window or an area where there is wireless communication.

12.5 There will be applications where the meter communication device will have to be located away from the meter location(s) and the antenna will need to be extended outdoor to provide communications. This will be determined by Distribution Engineering, Electric Meter Shop and M&T personnel based on the site-specific conditions.

13.0 METAL-CLAD AND METAL-ENCLOSED SWITCHGEAR

13.1 A separate compartment shall be provided for the metering transformers when installed in metal-clad and metal enclosed switchgear. Two separate isolated sections shall be provided in the compartment, one section for the current transformers and the other section for the potential transformers. No equipment, other than the transformers, shall be installed in these isolated sections.

13.2 The Company will specify mounting and overall dimensions of the current and potential transformers. The customer shall provide the mounting facilities for these transformers and they shall submit drawings of the metering compartment for approval.

13.3 Each section shall be designed so that after proper electrical isolation, the current and potential transformers can be readily installed, maintained, or replaced after the compartment is installed. The minimum electrical clearances between live parts, for indoor installations, are recommended below:

		Phase to Phase	Phase to Grd.
a.	2.4kv 3 phase 4 wire	4.5 in	3 in
b.	13kv 3 phase 3 wire	9 in	6.5 in
c.	27kv 3 phase 3 wire	12.5 in	9.5 in
d.	33kv 3 phase 3 wire	12.5 in	9.5 in

13.4 In addition, a minimum of 3 inches of clearance is required between each transformer body.

13.5 The transformers are not to be installed on the side walls of the compartment. The transformers shall be a minimum of 6 inches and a maximum of 84 inches above floor level. Each section shall be accessible through hinged doors that are provided with suitable latches and facilities to accommodate standard seals. The doors are to provide access to no equipment other than the metering transformers. There shall be a clear space of at least 3 feet in front of the access doors. For 27 kV and 33 kV services, the oil gauge of the transformers must be installed such that the gauges can be seen and read through the view window of the compartment.

13.6 If aluminum bus is used, tin or silver plated terminals shall be provided for connection to the Company's metering transformers. The plating shall be in accordance with ASTM253-53, "Recommended Practice for preparation of and Electroplating on Aluminum Bus". All such connections shall be made with cadmium-coated steel bolts and hex nuts with a Belleville washer under each nut and each bolt head. The top (convex surface) of each washer is to be marked so as to be conspicuous with the nut and bolt in place. Bolts and nuts shall be tightened until the washers are flat and then backed off 1/8 turn.

13.7 The metering compartment shall be adequately ventilated. If the switchgear is installed outdoors, the compartment shall be rain-tight.

13.8 The primary connections of current and potential transformers shall be made in accordance with Section 6.

13.9 The secondary wiring of current and potential transformers shall be in accordance with Section 7, except that where it is impracticable to use conduit within the switchgear, the secondary wiring within the switchgear may be exposed. The wiring shall be properly supported with adequate clearance from high tension busses and equipment. Wiring through partitions shall be installed in conduit nipples fitted with locknuts and bushings, or other means of equivalent protection.

13.10 Grounding shall be in accordance with Section 8.

13.11 The fusing of secondary wiring shall be in accordance with Section 9.

13.12 Meter mounting facilities shall be in accordance with Section 4 and installed away from the switchgear on an adjacent interior wall space or in a weather-proof housing. Where this is not practicable the customer may (after

obtaining Company approval) provide a vertical panel in the metering compartment for the Company's meters. The panel shall be in a separate section of the metering compartment completely isolated from any high-tension wiring or equipment. The customer shall furnish and install the panel together with all associated wiring and equipment for the meters (except the meters). The customer shall drill the panel in accordance with information supplied by the Company and shall submit drawings of the meter panel for Company approval. The panel and panel wiring shall be in accordance with the following specifications:

13.12.1 The meter panel shall be recessed at least 11 inches from the front door of the metering compartment and shall be of such design as to permit accessibility to the back of the panel for the purpose of mounting, wiring and maintaining of the meters and meter devices. If an access door to the rear of the panel is provided, there shall be a clear space of at least 3 feet in the rear of the panel.

13.12.2 If a swinging panel is used, the panel shall be side hinged, and when in operating position there shall be a clearance of at least 11" in the rear of the panel. There shall be a clear space of at least 3 feet in front of the compartment door providing access to the front of the meter panel. The meter panel shall be used exclusively for the Company's meters and associated devices.

13.12.3 The panel wiring shall be flame retardant type cover No. 10 AWG solid or stranded copper for watt-hour meter and instrument transformer secondary wiring. The panel wiring shall be firmly attached to the back of the panel. There shall be no exposed wiring on the front of the panel. If the panel wiring is to be connected to other wiring as specified in Sections 7 or 11, terminal blocks may be used for the connections. However, the terminal blocks shall be confined to the meter panel. No other intermediate terminal blocks are permitted. The customer shall wire the panel in accordance with wiring diagram furnished by the Company. The loop wiring between the cubicle wall and the swinging panel shall be of extra flexible construction, No. 10 AWG stranded wire (preferably 104 x 0.01") and shall have sufficient loop length so that the wires will be subject to twisting rather than bending stresses when the swinging panel is opened or closed.

13.12.4 Where required, a flexible braided bond wire or cable, not smaller than No. 4 AWG, copper, shall be installed across the hinge to assure a satisfactorily grounded panel. The hinged panel shall be capable to swing out of at least 90° from its operating position without the possibility of damage to surface mounted meters extending out at least 8 inches from the surface of the panel.

13.12.5 The meter panel shall be at least 30” wide and 60” high and constructed of a suitable material with adequate strength for the meters and devices mounted on it. Clearance slots shall be provided in metal panels for the terminal studs of rear connected meter devices. The top of the panel shall not be more than 84” or less than 72” from floor level. The door or hinged panel providing access to the back of the meter panel shall have facilities to accommodate a meter seal.

14.0 REFERENCES

Meter Eng. Spec. No. 166 - Wiring Diagram for Metering 2400/4150 Volt, 3 Phase, 4 Wire Service using 3 PTs and 3 CTs (for all new installations)

Meter Eng. Spec. No. 166A - Wiring Diagram for Metering 2400/4150 Volt, 3 Phase, 4 Wire Service using 2 PTs and 3 CTs (for existing installations)

Meter Eng. Spec. No. 220 - Installation Details - Instrument Transformers for 2400/4150 Volt, 3 Phase, 4 Wire Service.

Meter Eng. Spec. No. 230 - Installation Details - Instrument Transformers for 13,200 Volt, 3 Phase, 3 Wire Service.

Meter Eng. Spec. No. 273A - Wiring Diagram for Metering 13 kV 3 Phase, 3 Wire High Tension Service (for existing installations)

Meter Eng. Spec. No. 273B - Wiring Diagram for Metering 27 kV or 33 kV, 3 Phase, 3 Wire High Tension Service. (for existing installations)

Meter Eng. Spec. No. 273C - Wiring Diagram for Metering 13 kV 3 Phase, 3 Wire High Tension Service. (for new socket installations)

Meter Eng. Spec. No. 273D - Wiring Diagram for Metering 27 kV or 33 kV, 3 Phase, 3 Wire High Tension Service (for new socket installations)

Meter Eng Spec. 490 - Transformer Cabinet for 2.4/4 kV service for indoor installations

Meter Eng Spec. 491 - Transformer Cabinet for 2.4/4 kV service for outdoor installations

Meter Eng Spec. 731A – Wiring Diagram for Metering HT Services Billing Recorder

15.0 ATTACHMENTS

15.1 Exhibit A - Inspection Guideline List for High Tension Metering Installation

15.2 Exhibit B - Typical Metering Layout of High-Tension Service

Signature on File

Charles Feldman
Section Manager
Electric Meter Shop

Costas Magoulas

DATES: **REVISION 0: January 1952** **REVISION 1: By HCM August 1999** - Complete Revision **REVISION 2: By Tom Wong July 2010** - Spec has been reformatted to EO-1070 - Revised HT metering requirements in Sections 11 and 12 - Added Exhibit B- typical metering layout for HT Service **REVISION 3: By Michael Parobek June 2016** - Revised requirements in Sections 11, 12, and 13, Exhibits A and B. **REVISION 4: By Costas Magoulas March 2019** - Added MES-731A and edited titles in MES-166 and MES-166A in section 14 - Revised requirements in sections 6.3 and 7.2 - Revised Exhibit A section B primary wiring	**FILE:** Field Manual No. 16
REVISION 5: By Adam Miller October 2023 Revised requirements in sections 7.2, 7.4, 10.0 and 13.12.3, Exhibit A, sections C) Secondary Wiring, D) Meter Wiring and E) Ground Wiring. Revised Exhibit B “Typical Metering Layout of HT Service”. **Due for review / revision: 10/2028**	

EXHIBIT A

INSPECTION GUIDELINES LIST FOR HIGH TENSION INSTALLATIONS

NOTE: The following list of inspection items does not constitute the complete review of the metering switchgear but is to provide an aid for Company inspectors. In general, this list highlights items which have been the source of citations in the past. The customer is required to comply with all Company specifications including MES No. 350 and all applicable National Standards and Environmental rules and regulations.

Items that are checked should be inspected, discussed and if necessary, corrected by the customer.

A) METERING ---

_____ Company meters shall be connected ahead of all customers' energy consuming devices. (Except relay 47 device for NYC Transit Authority substations by agreement).

_____ Meter mounting equipment shall be of approved manufacture and catalog No. for installation. See approved electric service equipment section of Company rules book.

_____ Panel mounting for meters and meter devices, if selected, shall be in accordance with Company Specifications, including section 13, MES No. 350. (see item G below).

B) PRIMARY WIRING ---

_____ Instrument transformer wiring checks must be performed to verify the correct specified metering design.

_____ CT and PT polarity markings are to be in correct relationship.

_____ PT primary connections shall be on the line side of CTs.

_____ PT primary connections to use min No. 6 AWG copper wire and insulated for line to line voltage.

_____ CT primary terminal requires to be insulated for line-to-line voltage.

_____ PT primary terminals require to be insulated for line-to-line voltage if proper clearance does not exist between primary terminals and to ground.

C) SECONDARY WIRING---

_____ Current transformer secondary wires are not to be fused.

_____ CT and PT secondary wiring shall not pass though the phasing facility box or other company fuse boxes.

_____ CT and PT secondary wiring to be in rigid conduit or electrical metallic tubing and separated from all other wiring.

_____ CT and PT secondary wirings of one meter are to be in one conduit.

_____ CT and PT secondary wirings shall use color coded wiring as per Company specification.

_____ CT and PT secondary wiring is to be made by customer from transformers to the bottom of the 10 point switch block. (Company will verify wiring prior to energizing)

_____ Color coded cable to be either No. 10 AWG solid or stranded copper or No. 9 AWG (19/22) stranded copper, refer to National Electrical Code (NEC) table 310-13, for appropriate type designation and specification

_____ Installation of stranded wires is to use suitable lugs. Do not use solid and stranded wire on the same lug.

_____ Meter installation - PT common secondary connection to use single wire for return.

- CT secondary connections to have separated return wires from each CT.

_____ CT and PT secondary wiring shall be continuous without splices. Intermediate terminal blocks shall not be used without Company approval.

_____ PT secondary fuse box should be located close to PT but not within PT compartment, readily accessible for fuse replacement without hazard exposing to high tension equipment.

_____ Wiring to CT and PT secondary connections is to be cut and formed to proper length and identified by the customer by use of color coded wiring.

_____ CT and PT secondary wiring must not be tied to high voltage bus for support.

D) METER WIRING ---

_____ Wiring to the bottom of the meter connection block to be made by the customer. Company will make final connection to the meter only.

_____ Wiring to the top of the 10-point switch block to be made by the customer with a minimum of 18" of No. 10 AWG solid copper wire; refer to NEC table 310-13 for the appropriate wire type designation and specification (Existing Installations Only).

_____ CTs and PTs are to be within 25 linear feet from watt-hour meters.

_____ Short circuiting wires and tags on CTs will be removed by the Company (Meter Operations).

_____ All communication wiring (Category 6 cable) and unmetered power (120VAC) wiring by the customer shall be installed in rigid conduit or electrical metallic tubing and shall be separate from all other wiring. Refer to NEC table 310-13 for the appropriate wire type designation and specification for wet or dry location under various conditions.

_____ All conduits, wiring, fuse boxes, fuses and mounting facilities are to be furnished and installed by the customer.

E) GROUND WIRING ---

_____ Customer shall furnish, install and connect all ground wire.

_____ Ground wire shall be continuous without splices.

_____ CT and PT secondary connections shall be grounded as close as possible to the transformer using No. 10 AWG solid or stranded copper wire. CT ground wire is to be separate from PT ground wire.

_____ Transformer cases and meter cases shall be grounded. For insulated structures, each transformer case to be grounded using conductor not smaller than No. 6 AWG copper. Meter cases are to be grounded using No. 10 AWG copper wire.

_____ Ground connections shall be made to the ac ground bus or to the primary neutral. For electric service to railway properties, connection is to be made to ac ground bus and isolated from the station dc ground bus. (refer to Con Ed spec EO-2034)

_____ Potential transformers shall not be fused on the primary side except for 14,400/120 Volt transformers.

_____ Ungrounded conductors of potential secondary shall be fused by 10 amperes plug fuses housed in a metal box and have facilities for sealing and be locked and sealed with Company lock and seal.

_____ Low voltage phasing facilities (Network System Section requirement) shall have separate secondary fuse facilities and be provided in separate sealable fuse boxes.

F) **SWITCHGEAR** ---

_____ Switchgear design shall be such that PTs & CTs can be installed, maintained or replaced easily.

_____ Metal clad switchgear shall have a separate compartment provided for CT & PT. No other equipment is to be installed in the compartments.

_____ For indoor installation, the recommended minimum electrical clearances for installing instrument transformers on 4 kV service between live parts is 4.5 inches phase to phase, and 3 inches phase to ground; on 13 kV service between live parts is 9 inches phase to phase and 6.5 inches phase to ground; on 27 and 33 kV service between live parts is 12.5 inches phase to phase and 9.5 inches phase to ground.

_____ No installation of instrument transformers shall be made on the compartment's sidewalls.

_____ Switchgear sections shall be accessible through hinged doors with suitable catches and facilities to accommodate standard seals.

_____ A minimum clear space of 3 feet shall be provided in front of access doors or the door's swing-distance plus 2 feet if the equipment is located in public access areas.

_____ Instrument transformers shall be mounted at minimum distance of 6 inches and maximum distance of 84 inches above the floor.

_____ Compartment shall be adequately ventilated. If outdoors, the compartment shall be rain tight.

_____ Secondary wiring shall be properly supported with adequate clearances from high tension buses and equipment.

G) PANEL METERING ---

_____ Panel metering space requirements and design --

* panel to be a min. of 11 inches to front of compartment door.

* provision for accessibility to back of panel.

* a hinged panel is to have 11 inches to the rear of compartment.

* a 3 feet clear space at the front and rear (if rear access door is provided) of compartment.

_____ Panel wiring to be flame retardant.

_____ Terminal blocks may be used in panel with extra flexible construction, No. 10 AWG stranded wire.

_____ Panel doors shall be provided with facilities for security.

_____ Panel height shall be a minimum of 72" and a maximum height of 84

EXHIBIT B
TYPICAL METERING LAYOUT OF HIGH TENSION SERVICE

ITEM	QUANT.	DESCRIPTION	CON ED SPEC
		***** *To be Furnished & Installed by the Customer's Contractor, unless indicated by Con Edison* *****	
1	1	104A meter pan for meter equipment	EO-15934-B (MES-104A)
2	4	2- #14 AWG solid copper in code size conduit for TR 120V supply	N/A
3	4	10-point or 7-point meter enclosure from approved manufacturers	Table VII-A in EBB
4	4	Con Ed (CE) to furnish and install socket CT meter	N/A
5	4	#10 solid copper or #6 stranded wires harness in code size conduit	MES-377 MES-298
6	1	Con Ed (CE) to furnish & install DIGI box	N/A
7	4	1" conduit with pull string, for power & comm cable for DIGI by CE	N/A
8	1	One Telco Box & conduit, with pull string (where applicable)	EO-16428-B
9	1	CE to furnish & install power Transfer Relay (TR)	EO-16723-B (MES-727)
10	1	1" conduit routed to the outside. Cap and w/pull string	N/A

NOTES:

A. This layout is valid for 6 months and shall not be modified without Con Edison approval.

B. All work shall be done in accordance with Con Edison requirements and the Customer shall obtain all necessary approvals from authorities having jurisdiction before service is supplied.

C. The location of items 2, 3, 7, 8 & 10 shall be determined in the field by Con Edison Representative.

E. Wiring for DIGI item 6 shall consist of 2-#14 AWG solid copper wires fused at 10A with RS232 communication cable in rigid conduit.

F. The company will perform all final wiring connections to the meters and metering devices.

G. All # 14 AWG solid copper wires shall be color coded, continuous and free of any splices.

H. The following specs shall be adhered to:
MES-350, MES-273C, MES-273D, EO-15934-B, MES-104A, EO-16428-B, EO-16423-B