BULK POWER SYSTEM FACILITY AND END USER INTERCONNECTION REQUIREMENTS TO THE LIPA TRANSMISSION SYSTEM

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LIPA Facility Connection Requirements

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I. Introduction

This document has been prepared to identify the technical requirements for connecting new facilities to the LIPA Bulk Power System. It applies to new connections or substantial modifications of existing generating units or transmission interconnections on the bulk power system as well as existing and new end user delivery points on the bulk power system. This document is written to comply with NERC Standards, FAC-001 Facility Connection Requirements, which requires entities responsible for the reliability of the interconnected transmission systems to maintain and make available a Facility Connections Requirements document. The NERC standards require those entities seeking to add facilities or connect to the interconnected transmission system to comply with the Facility Connection Requirements document. The NERC Standards are posted on NERC's web site (www.nerc.com/standards).

Rather than give detailed technical specifications this document provides a general overview of the functional objectives and requirements to be met in the design of facility connections. These requirements are written to establish a basis for maintaining reliability, power quality, and a safe environment for the general public, power consumers, maintenance personnel and the equipment through the planning horizon. This Facility Connection Requirements document is revised from time to time to reflect changes or clarifications in planning, operating, or interconnection policies.

The LIPA planning process is designed to ensure that LIPA's transmission system will have sufficient capability for LIPA to meet the expected loads at distribution substations/delivery points, and to fulfill LIPA's contractual obligations with other entities to receive and deliver power. This document is not intended to be a design specification. Final design of facility connections to the LIPA transmission system will be subject to LIPA review and approval on a case-by-case basis. Finally, any entity seeking to connect to the Bulk Power System in New York should review the NYISO interconnect documents and tariff.

A utility/customer may elect to connect to LIPA through a "delivery point" connection or an "interconnection point" connection.

II. Reference Documents

Facility owners seeking to interconnect with Bulk Power System elements in the LIPA territory should reference the following documents as well:

a. NYISO Transmission Expansion and Interconnection Manual-
Focuses primarily on the roles and interactions of the NYISO, the Transmission Owners, and Eligible Customers (as described in the NYISO (OATT); and interactions with other organizations, such as the New York State Reliability Council (NYSRC) and the Public Service Commission (PSC), are also shown. This document is available on the NYISO web site.

b. LIPA Transmission and Distribution Planning Criteria and Guidelines - The criteria and guidelines which LIPA planning Staff utilized in the Planning horizon.

c. LIPA Generating Facility Interconnection Requirements to the LIPA Transmission System – Provides additional requirements for generators seeking to interconnect should also refer to.

d. LIPA Revenue Metering Requirements for Generating Facilities Interconnecting to the LIPA Transmission System – Provides metering installation requirements.

III. Applicability

This document applies to only those elements designated as Bulk Power System elements, where Bulk Power System is defined by the Electric Reliability Organization.

Nothing in this document is intended to supersede Interconnection Agreements agreed to by LIPA and the Interconnecting Party, and, if there is a conflict, the Interconnection Agreement, as applicable, will control.

IV. Definitions

a. Delivery Point - A "delivery point" is a point of connection between LIPA's transmission system and another entity's system or facilities which ultimately delivers the power to individual customers' loads. Two characteristics may be generally used to distinguish delivery points from interconnection points: i) the protective schemes of the integrated transmission system are designed to either entirely or partially suspend service to a delivery point by disconnecting a transmission facility that serves such delivery point from the transmission system; ii) power normally flows only in one direction across the delivery point (i.e., from the transmission system to the delivery point), and thus the protective schemes at the delivery point may be designed taking into account this characteristic.

b. Interconnection Point - An "interconnection point" is a point of connection between two entities' respective transmission systems. Interconnection points are normally operated in parallel with the transmission systems such that it is possible for power to flow in either direction. Protection systems for interconnection points are designed to prevent and/or minimize the possibility of an event within one of the systems affecting or cascading into the other system.

c. Transmission System – is defined as those elements that meet the definition of bulk power system elements established by the Electric Reliability Organization.

V. Process

The connection of non-LIPA transmission facilities to the LIPA transmission system should follow the NYISO transmission expansion and interconnection process outlined the NYISO Transmission and Interconnection Manual.

VI. Responsibilities

It is the responsibility of the facility owner to provide all devices necessary to protect the customer's equipment from damage by abnormal conditions and operations that might occur on the interconnected power system. The facility owner shall protect its equipment from overvoltage, undervoltage, overload, short circuits (including ground fault conditions), open circuits, phase unbalance, phase reversal, surges from switching and lightning, over and under frequency conditions, and other injurious electrical conditions that may arise on the interconnected system.

It is the responsibility of the facility owner to provide for the orderly re-energization and synchronizing of their high voltage equipment to other parts of the electric system. Appropriate operating procedures and equipment designs are needed to guard against out of synch closure or uncontrolled energization. Each facility owner is responsible to know and follow all applicable regulations, industry guidelines, safety requirements, and accepted practice for the design, operation and maintenance of the facility.

VII. Site Access

There are situations where some equipment that is owned by LIPA is located within the Customer's facility. This is often required for data acquisition or metering. In these cases, installed equipment owned by LIPA will be clearly identified as such on the appropriate station drawings, on the reference documents and at the site. Site access is to be provided to LIPA employees where LIPA equipment is located within the Customer's facility.

VIII. Safety

Safety is of utmost importance. Strict adherence to established switching, tagging and grounding procedures is required at all times for the safety of personnel. Any work carried out within a facility shall be performed in accordance with all applicable laws, rules, and regulations and in compliance with Occupational Safety and Health Administration (OSHA) and good utility practice. Automatic and manual disconnect devices are to be provided as a means of removing all sources of current to any particular element of the power system. Only trained operators are to perform switching functions within a facility under the direction of the responsible dispatcher or designated person.

IX. Unbalance Phases

Unbalance currents and voltage are to be controlled by each party on their respective side of the interconnection. However, it should be realized that switching devices, such as breakers and switches, are three phase devices and can fail with only one or two poles closed. It is the responsibility of the facility owner to protect their own equipment such as generators or transformers from damaging negative sequence currents or voltage.

X. Point of Interconnection

The point of interconnection is to be clearly described. Usually the change of facility ownership and the point of interconnection are the same point.

An interconnection junction box may be required to connect control circuits and signals between the parties at a point of demarcation. Fiber optics is the preferred means of interconnection of control circuits. Metallic control cables will present problems if the distances are great, ground potential rise during faults can cause failures when these signals are needed the most. Long cable voltage drops can make control systems unreliable or produce inaccurate signal levels and therefore are to be avoided.

Metering equipment should be provided as close to the interconnection point as practicable. The interconnecting facility must be connected to the LIPA system through a primary interrupting device. LIPA metering voltage and current transformers shall be located ahead of any non-LIPA owned switches or disconnects.

Facilities interconnecting to the LIPA transmission system that are not solely operated and controlled by the LIPA System Operator must have an isolating device installed at the point of interconnection. This isolating device, typically a disconnect switch, must be capable of physically and visibly isolating the facilities from the LIPA transmission system. This isolating device must be lockable in the open position by LIPA and must be under the ultimate control of the LIPA System Operator.

XI. Transmission Line Configurations

Three source terminal interconnection configurations are to be avoided within the LIPA transmission system. Three terminal lines are extremely difficult to protect especially with weak feed(limited fault current) and where high speed tripping is required. New construction of three terminal lines is generally not permitted on the LIPA system. If new construction of three terminal lines is accepted, then 2^{nd} contingency planning criteria will be applied for the lines and substations involved and redundant communications and protection equipment will be required.

Some new connections to the LIPA transmission system may require one or more LIPA transmission circuits to be looped through the new facility. The design and ratings of the new facilities and the transmission loop into them shall not restrict the capability of the transmission circuits or impair LIPA's contractual transmission service obligations.

Long taps to feed connected load directly tied to a transmission line are to be avoided. This presents coverage problems to the protective relay system due to infeed. Power line carrier signals can also be lost due to odd quarter wavelength sections.

Any interconnection configuration should not restrain LIPA from taking a LIPA transmission line out of service for just cause. LIPA shall not be forced to open a transmission line for an adjacent interconnected generator or transmission line to obtain an outage. Manual switching or clearing electrical faults within the non-LIPA facility shall not curtail the ability of LIPA to transmit power or serve its customers.

Reliable station and breaker arrangements will be used when there are new or substantial modifications to existing LIPA switching stations affecting transmission lines rated at or above 69kV. In general, LIPA transmission switching stations are configured such that line and transformer, bus and circuit breaker maintenance can be performed without degrading transmission connectivity. This generally implies a breaker and a half or double breaker, double bus configuration. A ring bus may be used when a limited number of transmission lines are involved.

XII. Structures

Transmission and substation structures for facilities connected to the LIPA transmission system shall be designed to meet the National Electrical Safety Code (NESC). Substation bus systems shall be designed to comply with ANSI/IEEE Standard 605, IEEE Guide for the Design of Substation Rigid-Bus Structures.

XIII. Grounding

Each interconnection substation must have a ground grid that solidly grounds all metallic structures and other non-energized metallic equipment. This grid and grounding system shall be designed to meet the requirements of ANSI/IEEE 80, IEEE Guide for Safety in AC Substation Grounding and ANSI/IEEE C2, National Electrical Safety Code. The transmission line overhead static wire shall be connected to the substation ground grid.

All transmission line structures must be adequately bonded and grounded to control step and touch potential in compliance with the NESC, and to provide adequate lightning performance. All transmission lines should have a continuous ground wire/counterpoise, not relying on earth as the primary conductor, to transfer fault current between structures and to substations and plant switchyards. Any exceptions to a continuous ground wire shall be verified with a system study. All ground wires and bond wires must be adequately sized to handle anticipated maximum fault currents and duty without damage.

Transmission interconnections may substantially increase fault current levels at nearby substations and transmission lines. Modifications to the ground grids of existing substations and static wires of existing lines may be necessary. The interconnection studies will determine if modifications are required and the scope and cost of the modifications.

The neighboring utility must have an effectively grounded transmission system.

XIV. Ferroresonance

Ferroresonance occurs on the power system under certain system configurations that may damage high voltage equipment. This phenomenon is usually caused when Potential Transformers (PT) are tied to a bus or line stub that may be energized through breakers having capacitors in parallel with the main contacts. Since interconnection facilities may contain shared equipment, such as metering PT's and high voltage breakers, care should be used to avoid configurations that could cause ferroresonance.

XV. Insulation Coordination

Insulation coordination is the selection of insulation strength. Insulation coordination must be done properly to ensure electrical system reliability and personnel safety. Basic Surge Level (BSLs), surge arrester, conductor spacing and gap application, substation and transmission line insulation strength, protection, and shielding shall be documented and submitted for evaluation as part of the interconnection plan.

LIPA's standard is to shield substations and transmission lines from direct lightning strokes and to provide line entrance arresters at transmission line terminals. Surge arresters are also applied at major components and systems.

Interconnection facilities to be constructed in areas with salt spray contamination or other type of contamination shall be properly designed to meet or exceed the performance of facilities not in a contamination area with regard to contamination caused outages.

XVI. Ratings

The ratings of facilities are the responsibility of the owner of those facilities. Ratings of facilities must conform to the process required by NERC Facility Standards.

XVII. Reliability and System Security

LIPA designs and operates its transmission system to meet NYSRC, NPCC and NERC Planning and Operating Standards. The planned transmission system with its expected loads and transfers must be stable and within applicable ratings for all category A, B, and C contingency scenarios. The effect of category D contingencies on system stability is evaluated when changes are planned in the transmission system. The design of new transmission connections should take into account and minimize, to the extent practical, the adverse consequences of category D contingencies.

Higher probability category D contingencies, when they occur in combination with forecasted demand levels and firm interchange transactions, must not result in uncontrolled, cascading interruptions. While controlled interruption of load and/or opening of transmission circuits

may be needed, the system shall be within its emergency limits and capable of rapid restoration after operation of automatic controls.

System and generator stability is to be maintained for normal clearing of all three phase faults.

The power system must be stable for single line to ground faults with the failure of a protection system component to operate. This includes clearing of a system fault with the simultaneous failure of a current transformer, protective relay, breaker, or communication channel. Three phase faults with the failure of a protection system component to operate are to be considered in all design alternatives with adverse consequences to system stability minimized.

LIPA transmission circuits are protected with primary system relays that provide no intentional time delay when clearing faults for 100% of a line. A second high-speed relay system with communications and no intentional time delay is required if a failure of the primary system can result in instability when a fault is cleared by time delay backup protection. This can be the case for an end of line fault on a short line combined with a failed relay. Likewise, two independent high-speed protection systems may be required for bus protection if backup clearing results in instability.

XVIII. Protective Relaying

Utility grade, transmission level protective relays and fault clearing systems are to be provided on the interconnected power system. All protective relays should meet or exceed ANSI/IEEE Standard C37.90. Adjoining power systems may share a common zone of protection between two parties. Compatible relaying equipment must be used on each side of the point of ownership within a given zone of protection. The design must provide for adequate sensitivity between coordinating devices, as well as optimized fault-clearing speed and sensitivity, in order to power system security and reliability.

The short circuit currents on the transmission system are available from LIPA on request.

A connection to a point on a transmission line shall require the installation of a substation at the point of connection. The substation shall have at least two circuit breakers equipped with high speed line relaying as specified by LIPA.

Each facility which is to be operated in parallel with the LIPA system shall submit its control and protection designs to LIPA for review and acceptance. The specific design requirements of the protection system depend on the site specific considerations.

All bulk transmission power systems are to have primary protective relaying that operates with no intentional time delay for 100% of the specified zone of coverage. On transmission circuits, this is accomplished through the use of a communication channel. A second high-speed protection system may be required on a line or bus.

Backup protective systems should provide additional coverage for breaker and relay failure outside the primary zone. Specific breaker failure protection schemes must always be applied at the bulk transmission level. Specific relay failure backup must also be provided. Backup systems should operate for failures on either side of an interconnection point. Time and sensitivity coordination must be maintained to prevent misoperations.

A power source for tripping and control must be provided at substations by a DC storage battery. The battery is to be sized with enough capacity to operate all tripping devices after eight hours without a charger. An undervoltage alarm must be provided for remote monitoring by the facilities owners who shall take immediate action to restore power to the protective equipment.

Mechanical and electrical logic and interlocking mechanisms are required between interconnected facilities to ensure safe and reliable operation. These include, but are not limited to, breaker and switch auxiliary contacts, undervoltage and synch-check relays, and physical locking devices.

A transfer trip is required for many installations. It is used for backup protection and islanding schemes. Fiber optics is the preferred means of communication. Audio tone over phone line is the least preferred method because it may not meet requirements for speed and reliability.

Depending upon the location of the transmission interconnection, it may be necessary to install special relaying or transfer trip equipment.

Connections to the LIPA transmission system which introduce the possibility of LIPA load being isolated with non LIPA generation must be evaluated to assure safety and quality of service. When there is a potential for LIPA load to become islanded with non-LIPA generation, a special protective isolation scheme may be required.

At the completion of construction, functional tests of all protective equipment shall be performed by a qualified testing company acceptable to LIPA, and LIPA reserves the right to witness such tests. If these tests are successful, and the protective relay settings have been correctly applied, LIPA shall permit the interconnection to be energized.

All additions or changes required to protective relay and control equipment on the LIPA system shall be installed by LIPA at the Developer's expense. All additions or changes to relay and control equipment required at the point of interconnection shall be paid for and installed by the Developer.

Entities connecting to the LIPA transmission system shall investigate and keep a log of all protective relay actions and misoperations as required by the NPCC in compliance with NERC Standards. The most current requirements for analysis and reporting of protection misoperations are available from NPCC staff.

Entities connecting to the LIPA transmission system must have a maintenance program for their protection systems. Documentation of the protection maintenance program shall be supplied to LIPA, the NPCC, and NERC on request. Test reports as outlined in the maintenance program are to be made available for review by LIPA and the NPCC. At intervals described in the documented maintenance program and following any apparent malfunction of the protection equipment, the entity shall perform both calibration and functional trip tests of its protection equipment.

XIX. Transmission Reclosing

It is LIPA's practice to automatically and manually test its transmission lines following breaker operations for system faults. This is required to minimize customer outage time and maintain system stability. Manual reclosing and sectionalizing may also occur. Interconnected facilities must not interfere with LIPA's ability to quickly restore transmission lines following temporary or permanent system faults.

Any entity wishing to interconnect with LIPA must consider the implications of automatic reclosing in their design.

Automatic reclosing on interconnected transmission lines between utilities is handled on a case-by-case basis. Transmission interconnections between utilities may be restored from either direction depending upon a reclosing practice agreed to by the utilities involved.

XX. Metering

Metering equipment may be located at either end of the transmission line but should be installed at the station closest to the change of ownership. The NYISO Revenue Metering Requirements Manual describes the requirements for bulk power system metering.

Each installation needs to be evaluated separately for metering requirements because of the many possible contractual agreements and interconnection configurations. In general, however, the following quantities are to be provided for each supply point. Megawatt-hours received, Megawatt-hours delivered, MegaVar-hours received, MegaVar-hours delivered, Three Phase Voltage, Three Phase Current, +/- Megawatts, and +/- Megavars. These quantities may need to be provided to various parties through various information/communication systems. Specific designs will be developed to meet those requirements. All metering devices are to be pre-approved by LIPA prior to installation. Revenue meters are to have an accuracy class of 0.3% or better. Transducers are to be accurate to +/- 0.2% of full scale. Three element meters are to be used on all effectively grounded power systems. Both primary and backup revenue meters are to be provided. Backup current transformers (CTs) and potential transformers (PT's) are not required.

Instrument transformers are to have an accuracy class of 0.3% or better with 0.15% being preferred. Metering accuracy CTs and PTs are to be installed as close to the delivery point as practical. CT ratios are to be selected just above the expected full load. Using multi-ratio CT's are not advisable since accuracy is lost when using lower taps. Metering CT's and PT's should not be used to feed non-metering equipment such as protective relays. Metering CT's

are not to be connected in parallel. Auxiliary CT's are not to be used in metering circuits. When more than one point is to be monitored, individual metering is to be used. The impedance of the CT and PT cable leads is to be kept low and not impose burdens above that of the instrument transformer rating.

At locations where ferroresonance can be a problem, metering accuracy capacitor coupled voltage transformers (CCVT) may be used if an alternate design configuration cannot be used. Designs that use ferroresonance dampening resistors connected to metering PT secondary circuits are not allowed.

End user devices are not to be connected directly to potential or current transformer secondaries used for revenue metering.

When the metering location is different from the delivery point, compensation for losses is maybe required for transformer losses and transmission line losses. This will be determined by contract between LIPA and the developer. Compensation should be performed internally by the installed metering equipment rather than by after-the-fact calculations. Revenue meters are to remain sealed during operation and following maintenance or calibration testing. All parties are to be notified prior to removing seals. Calibration testing is to be performed annually and is to include all associated parties. Test equipment must be certified and traceable to the National Bureau of Standards.

XXI. Supervisory Control and Data Acquisition (SCADA)

Each installation needs to be evaluated separately for SCADA requirements because of the many possible contractual agreements and interconnection configurations. Generally, the following quantities are to be provided. Megawatt-hours received, Megawatt-hours delivered, KQ-hours received, KQ-hours delivered, Voltage, Current, +/- Megawatts, and +/- Megavars, breaker and switch positions, and equipment trouble alarms. These quantities may need to be provided to various parties through various information/communication systems. Specific designs will be developed to meet those requirements. Dual ported remote terminal units (RTUs) accessed by both parties may be used, provided the appropriate security levels are implemented. Equipment control of breakers, switches and other devices via SCADA is to be provided to only one responsible party.

A SCADA (Supervisory Control and Data Acquisition) system RTU (Remote Terminal Unit) purchased by LIPA, and paid for by the Developer, shall be required at each site. The RTU shall provide LIPA with supervisory trip control of the interconnection breaker(s). It shall also provide telemetry of key operating parameters of the Developer's facility which shall include, but not be limited to:

a. Status indication of interconnection breaker(s), and all other devices that are in series with these breakers.

b. Status indication of various alarms such as loss of DC to interconnection breaker(s), loss of DC to RTU, loss of AC to RTU battery charger, loss of relaying communication channel, etc.

c. Analog telemetry of current, voltage, watts, VARS, power factor for all interconnection breakers.

d. Pulse accumulation of MWHR (in/out) and MVARHR (in/out) for the facility.

The location of the RTU shall depend on the proximity of the Developer to the LIPA interconnecting substation. The RTU shall be maintained and repaired by LIPA at the Developer's expense.

The Developer shall make provisions adjacent to the supervisory control cabinet to terminate the supervisory control four (4) wire dedicated telephone lease line(s) on double pole double throw open blade cut off switch(es). The lease line shall be ordered by LIPA. Installation, maintenance and subsequent monthly charges shall be charged to the Developer.

XXII. Operations

Operational procedures are to be established in accordance with NYISO, NPCC and NERC requirements. Each party shall designate operating representatives to address:

- lines of communications,
- maintenance coordination,
- actions to be taken after deenergization of interconnected facilities, and
- other required operating policies.

All parties are to be provided with current station operating diagrams. Common, agreed upon nomenclature is to be used for naming stations, lines and switches. Updated diagrams are to be provided when changes occur to interconnected facilities.

The operator of facilities interconnecting to the LIPA transmission system must not perform any switching that energizes or deenergizes portions of the LIPA transmission system or that may adversely affect the LIPA transmission system without prior approval of the LIPA System Operator. Operators of facilities interconnecting to the LIPA transmission system must notify the LIPA System Operator before performing any switching that would significantly affect voltages, power flows or reliability in the LIPA transmission system.

Interconnections between LIPA's transmission system and other transmission systems are normally operated in parallel unless otherwise agreed. However, if any operating condition or circumstance creates an undue burden on the LIPA Transmission System, LIPA shall have the right to open the interconnection(s) to relieve its system of the burden imposed upon it. Prior notice will be given to the extent practical. Each party shall maintain its system and facilities so as to avoid or minimize the likelihood of disturbances that might impair or interrupt service to the customers of the other party.

XXIII. Voltage

Entities will maintain voltages within 5% of nominal when operating in parallel with the LIPA system. Nominal voltages on the LIPA transmission system are 345, 138 and 69 kV.

XXIV. Reactive Power Control

Entities interconnecting their transmission system with LIPA's transmission system shall endeavor to supply the reactive power required on their own system, except as otherwise mutually agreed. LIPA shall not be obligated to supply or absorb reactive power for the other party when it interferes with operation of the LIPA transmission system, limits the use of LIPA interconnections, or requires the use of generating equipment that would not otherwise be required.

XXV. Responsibilities during Emergency Conditions

All facilities within the LIPA region are responsible for maintaining voltage and frequencies within agreed upon limits. All operators of facilities interconnected to the transmission systems in the LIPA region are required to communicate and coordinate with the LIPA System Operator. During emergency conditions, the facility operator shall adjust reactive power, switch facilities in or out, or reduce end user load as directed by the LIPA System Operator.

XXVI. Maintenance of Facilities

The maintenance of facilities is the responsibility of the owner of those facilities. Adjoining facilities on the interconnected power system are to be maintained in accordance with accepted industry practices and procedures. Each party is to have a documented maintenance program ensuring the proper operation of equipment. LIPA will have the right to review maintenance reports and calibration records of equipment that could impact the LIPA system if not properly maintained. LIPA is to be notified as soon as practicable about any out of service equipment that might effect the protection, monitoring, or operation of interconnected facilities.

Maintenance of facilities interconnected to the LIPA transmission system shall be done in a manner that does not place the reliability and capability of the LIPA transmission system at risk. Planned maintenance must be coordinated and scheduled with the LIPA System Operator. LIPA switching and safety procedures shall be strictly adhered to when maintenance is being performed on an interconnection.

XXVII. Future Modifications

Any changes that affect an interconnection must be reviewed in advance. These include modifications to the metering or protection scheme as well as associated settings after the interconnection project has been completed. Information about expected increased load flows or higher fault currents levels due to system changes must be provided in a timely manner.

XXVIII. Delivery Point Power Factor

Delivery point connections to the LIPA transmission system shall operate from .95 to 1.0 power factor leading or lagging.

XXIX. Delivery Point Power Quality

Generation of harmonics should be limited to values prescribed by IEEE Standard 519 when measured at the interconnection point of ownership. Additionally, the LIPA transmission system should not be subjected to harmonic currents in excess of 5% of a transformer's rated current as stated in ANSI/IEEE Standard C57.12.00.

XXX. Delivery Point Metering

LIPA is to own, operate and maintain the metering installation equipment, including the instrument transformers, secondary conductors, cables, meters and transducers. If the interconnection facilities are owned by the end user, and that party does not own the instrument transformers or meters, then a structure and a location for mounting metering transformers and recording devices are to be provided by the facility owner. End user devices are not to be connected directly to potential or current transformer secondaries used for revenue metering.

XXXI. Delivery Point Auto-Restoration

End user facilities are energized in the direction from LIPA to the load. Owners of interconnected load facilities are to be aware of LIPA's automatic reclosing practices as stated in Section XVIII. Ride-through capability and heavy motor inrush currents should be assessed in the design stages of the facility.

XXXII. Delivery Point Generation

Delivery point connections usually do not have generating facilities that operate in parallel with the LIPA transmission system. Customers wishing to install generating facilities to be operated in parallel with LIPA must notify LIPA in writing prior to the commencement of any work. No generation shall be operated in parallel with the LIPA transmission system without prior written approval of LIPA.

XXXIII. Delivery Point Parallel Operation

The distribution and transmission facilities behind the designated delivery point with LIPA's transmission system shall be operated as a radial system only. Operation in a mode which would tie two or more delivery points together in a manner which would cause the system behind the delivery points to be operated as a parallel network to the LIPA transmission system is prohibited without the express written permission of LIPA. The installation of such protective equipment may be required by LIPA to ensure that parallel operation is automatically interrupted within the time frame allowed by LIPA's standard.