POWER DELIVERY BULLETIN

Georgia Power

Distribution Bulletin: 18-23

Title: INTERCONNECTION REQUIREMENTS FOR NON-EXPORTING GENERATORS

Owner:	PD Systems and Standards	**ISSUED:**	7/15/08
SME Contact:	Haile Gashaw	**Last REVISED:**	1/6/21
Review by:		**Annual Review Date:**	

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PURPOSE:

THE PURPOSE OF THIS GUIDE IS TO OUTLINE MINIMUM REQUIREMENTS FOR CONNECTION OF CUSTOMER-OWNED NON-EXPORTING GENERATORS (NEG) TO THE GEORGIA POWER COMPANY (GPC) DISTRIBUTION SYSTEM. THESE GENERATORS ARE INTENDED TO SUPPLY THE CUSTOMER'S LOAD AND NOT ALLOWED TO EXPORT POWER TO THE GPC DISTRIBUTION SYSTEM.

1.0 INTRODUCTION

Any Georgia Power Company Customer desiring to operate a Non-Exporting generator must meet the technical specifications and requirements of this bulletin. Once approved, Georgia Power Company (hereafter referred to as GPC) may disconnect service to the customer consistent with prudent Utility Practice and in its sole discretion, if the Customer (hereafter referred to as Non-Exporting Generator or NEG Owner) departs from the technical specifications and requirements of this bulletin.

1.1 GENERAL

This bulletin applies to customers connected to the Georgia Power Distribution system. It provides the minimum intertie protection requirements, application process, and procedure for interconnection and safe operation of customer-owned Non-Exporting generator (NEG) connected in either open or close transition transfer. **These generators are primarily intended to provide an alternate source of electrical power to all or part of the customer's load in the event the electric utility power source fails. The generators sometimes can be used for peak shaving. They are not allowed to export power to the electric utility system**.

Requirements for customer-owned generators that are intended to export power to the electric utility system are not addressed by this document. The Southern Company Document entitled "*Southern Company Distribution Interconnection Policy: Operation of Distributed Energy Resources in Parallel with the Distribution System Policy"* covers generators that export power to the GPC distribution system.

This bulletin does not provide information regarding the protection of the NEG. GPC cannot assume any responsibility for protection of the NEG facility and equipment. The NEG owner is solely responsible for protecting his facility and equipment from the effects of power system disturbances that originate internal or external to the NEG facility.

GPC feeders reclose after trip operation to restore service to customers without checking feeder voltage. Reclosing that takes place with the generator **still connected to the system** poses severe risk to the generator. The generator must also be protected from the possibility of GPC feeder being single-phased, when normally it is three-phase.

Many customers have unique system configurations and requirements and this document is not intended as an all-inclusive guide to integration of NEG facilities. In the event that any part of this document is unclear to the NEG Owner, GPC Power Delivery Systems and Standards will clarify the intention of the requirements and rule on specific design or implementation issues as they may occur. For this reason, the NEG owner is cautioned not to start construction of the interconnection without the design being accepted by GPC Power Delivery Systems and Standards.

NEG facilities that have generation of 100 kW and more will require a Professional Engineer Licensed in the State of Georgia to review and stamp the design of the facility generation interconnection. Such a PE must ensure that all requirements stipulated in this document and any additional requirements stipulated by a GPC Power Delivery Systems and Standards Engineer are incorporated prior to interconnection. **For this reason, it is essential to meet with the Power Delivery Systems and Standards Engineer prior to finalizing the design.**

1.2 DEVIATION

Deviation from this bulletin can only be made with the consent of the GPC Engineering Supervisor of Power Delivery Systems and Standards or an appointed representative.

1.3 SAFETY, RELIABILITY AND POWER QUALITY

The requirements of this bulletin are intended to achieve the following:

- Ensure the safety of the general public and GPC personnel
- Minimize possible damage to the property of the general public, GPC, and GPC customers
- Minimize adverse operating conditions on the GPC Distribution System
- Permit safe operation of customer-owned NEG.
- Minimize the Reliability impact to other customers due to customer-owned generation
- Ensure the power quality to other GPC customers is not negatively affected.

In order to achieve these goals, intertie protection devices (relays, power circuit breakers, etc.) may be required to ensure prompt disconnection of the NEG from the GPC Distribution System. The protective devices required depend primarily on the power source transfer scheme selected by the NEG owner. These schemes include:

- Closed Transition Transfer (CTT)
- Open Transition Transfer (OTT)

2.0 DEFINITIONS

Closed Transition Transfer: All modes of power source transfer in which the Non-Exporting power source is connected before the electric utility power source is disconnected or vice versa; thus, allowing both sources to momentarily operate in parallel to prevent power interruption to the customer's load. This system is typically referred to as "make-before-break". It requires the two sources to be synchronized prior to closing the paralleling device.

Customer-owned NEG: Non-Exporting Generation that is either owned, rented or contracted by the customer.

Electric Utility Power Source: Source of electric energy supplied by Georgia Power Company; for purpose of this document, this source is considered the normal power source.

Emergency Power Source: A reserve source of electric energy that automatically provides electric power within a specified time (typically 10 seconds or less) to some or all of the customer's load upon failure or outage of the electric utility power source.

Non-Exporting Inverter Based Generation: Source of electric energy that interfaces with the utility electric system using a utility-interactive inverter that does not export power to the utility.

Utility-Interactive: Can only generate power while paralleled with a healthy utility power source.

Network Distribution System: An electrical distribution system that has more than one path of power flow to the load.

Open Transition Transfer: All modes of power source transfer in which the electric utility power source is disconnected before the Non-Exporting power source is connected or vice versa; thus, allowing a short power interruption to the customer's load. This scheme is typically referred to as "break-before-make".

Peak Shaving: The practice of selectively dropping electric loads or generating on-site electricity during periods of peak electric demand to reduce electric utility costs.

Radial Distribution System: An electrical distribution system that has only one path of power flow to the load.

Synchronization: The act of verifying the voltage magnitude, phase angle, and frequency of the two alternating current sources are within allowable limits prior to paralleling the two sources.

Standby Power Source: A reserve source of electric energy that provides electric power within a specified time (typically 60 seconds or less) to some or the entire customer's load upon failure or outage of the electric utility power source.

Utility Relay: A relay meeting the following requirements,

- Meets or exceeds IEEE Std C37.90 (IEEE Standard for Relays and Relay Systems Associated with Electric Power Apparatus)
- Can be removed and replaced, tested and maintained without disturbing other protection and control devices
- Provide positive indication of trip operation

3.0 GPC DISTRIBUTION SYSTEM

The GPC Distribution System includes the following types:

- Three-phase, 60 Hz, 4-wire, multi-grounded neutral system supplying radial distribution feeders
- Three-phase, 60 Hz, 3-wire system supplying network underground feeders

3.1 RADIAL DISTRIBUTION SERVICE

Service transformers supplied by radial distribution feeders will either be pole or pad mounted. For either case, the three-phase transformers will, in most cases, be two winding connected grounded wye primary – grounded wye secondary.

3.2 NETWORK UNDERGROUND SERVICE

Service transformers supplied by network underground (NU) feeders are installed in vaults. The transformers are two-winding, typically connected delta primary – grounded wye secondary. To provide the high level of service reliability required of network underground service, a group of transformers are connected in parallel on the secondary side to form a secondary network grid. A different feeder serves each transformer. All feeders supplying the network grid usually originate from the same substation.

A network protector is connected between each transformer and the secondary network grid. This device performs the following functions:

- It automatically isolates faults in the primary feeder or network transformers after a predetermined time delay upon sensing reverse power or current flow equivalent to the transformer core loss.
- It automatically closes its breaker upon sensing proper voltage conditions across the open breaker contacts.

Network protectors do not check the frequency of the voltage waveforms prior to closing and are, therefore, not suitable for paralleling two alternating current (AC) sources. Therefore, NU customers wishing to install NEG must ensure that the NEG output is precisely controlled to prevent export of power during closed transition transfer operation especially during periods of light load on the secondary network grid. Failure to do so could cause network protectors to open. A subsequent reclose operation with the NEG source on the secondary side and the electric utility power source on the primary side of the open network protector could result in catastrophic failure of the network protector or customer equipment.

4.0 INTERTIE PROTECTION REQUIREMENTS

Intertie protection requirements depend on the power source transfer system selected by the NEG Owner and the type and size of generation.

4.1 DISCONNECT DEVICE

Depending on the power source transfer scheme selected, the NEG Owner may be required to install a disconnect device between the GPC system and the NEG. The device shall:

- Provide a visible air gap between the NEG and the GPC system.
- Be readily accessible to GPC personnel.
- Have provisions for padlocking and application of safety grounds on the GPC side.

The disconnect device can be a visible break disconnect switch or a drawout power circuit breaker that meets all of the above requirements. If the disconnecting device is a drawout power circuit breaker, it shall have pistol grip type breaker control switch that can be supervised by the intertie protection relay.

4.2 OPEN TRANSITION TRANSFER

For the OTT scheme that meets the definition of § 2.0, the NEG Owner is not required to provide intertie protection. **To be accepted by GPC, this transfer scheme must use either of the following:**

a) **A mechanical interlock of the switching devices to prevent inadvertent paralleling of any sources due to failure of the switching device(s) or**

b) **A dedicated standalone minimum open time delay relay that supervises the closing of any switching device capable of paralleling sources.**

Kirk Key and other Key systems are not allowed to have multiple keys that can lock and open the same lock that would defeat the purposes of the Key System. All Key systems must be evaluated by GPC Power Delivery Systems and Standards to verify open transition transfers. After witness inspection of a Key System, the system is not allowed to be changed.

If the NEG Owner wishes to automate a Key interlock system, they must re-apply with a new DB18-23 to have GPC Power Delivery Systems and Standards review the design prior to ordering the equipment.

4.3 CLOSED TRANSITION TRANSFER

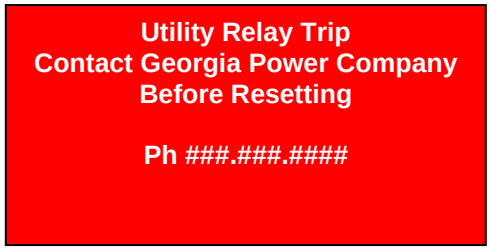
CTT schemes involve momentary paralleling of the GPC System with the NEG. When operating in parallel with the GPC System, the NEG can be a source of fault current to faults on the GPC System. Also, parallel operation can cause undesired power flow from the NEG to the GPC System under certain loading conditions within the NEG facility. For these reasons, the NEG Owner is required to provide intertie protection (including relays, power circuit breakers and instrument transformers).

4.3.1 INTERTIE PROTECTION

Minimum protection requirements to prevent undesired export of power to GPC shall include:

- Sensitive directional three phase power (32) relay with trip direction towards GPC that can be set to detect 2% of the power rating of the GPC service transformer or a value determined by GPC
- Timing (62) relay which supervises the 32 relay
- Manual reset, lockout (86) relay

These relays must be utility-grade and are required for each intertie breaker. Each lockout relay must be wired to trip the circuit breaker directly (with no indication lights, etc, in the trip path) and block the breaker from closing. When the lockout relay trips the breaker, the Customer shall not reset the lockout relay until instructed to do so by the GPC Distribution Control Center or their appointed representative. Each lockout relay must be clearly marked with the following label:



GPC will provide the appropriate telephone number to use on this label prior to scheduling the inspection of the facility.

The intertie protection relay system must be mounted together. This system must be installed separate or clearly delineated from other controls for each intertie breaker. The intertie protection functions can be provided by discrete electromechanical relays or a multifunction solid-state (or microprocessor-based) relay package following the requirements of §4.3.2.

4.3.1.1 SWITCHING DEVICES BETWEEN GPC AND CUSTOMER NEG

All switching equipment that can connect the generation to the GPC supply must be supervised by a synchronizing or synch check scheme. All mechanical close push buttons will be blanked off to inhibit manual closing of these switches.

Manual closing of mechanical operated switches or devices that could parallel sources either intentionally or in error are not allowed. Any mechanically operated switch that can be closed manually must either be removed or the manual closing mechanical operating button, link, cable etc. must be permanently blanked off or disabled.

4.3.1.2 RECONNECTION OF GENERATION AFTER AN OUTAGE

Closed transition back to GPC supply will not be allowed until all GPC voltages and frequency are within specifications as stipulated in IEEE 1547. For reverse power operations, automatic reclosing

is not allowed. For all other trip functions, the closing of the intertie breaker will be supervised by the healthy voltage timer.

4.3.2 MULTI-FUNCTION SOLID STATE RELAY PACKAGE

Customers proposing to use a multi-function, solid-state relay for each intertie protection shall:

- Program the reverse power function to trip via a dedicated output contact; this output cannot be used for any other function.
- Program all other required intertie protection functions to trip the intertie breaker directly.
- For reverse power functions, wire the dedicated intertie trip output contact to operate the intertie manual reset lockout (86) relay.
- Program the relay to display a trip target for each intertie protection function.
- Monitor the relay power supply failure output contact of the solid-state relay. No close transition transfers are allowed during times when the intertie relay is inoperable.
- Trigger an event report on activation of any trip outputs for post-trip analysis. Event reports must be made available to GPC upon request.

4.3.3 CURRENT TRANSFORMERS

Current transformers (CT), which supply the intertie relays, shall have a relay accuracy of C200 or better and meet requirements of ANSI/IEEE Std C57.13 (IEEE Standard

Requirements for Instrument Transformers). The secondary circuits for the CTs shall be continuous and be dedicated for intertie protection. Test switches (like the ABB Type FT-1 Switches) with make-before-break current short circuit feature can be installed in these circuits to facilitate relay system testing and maintenance.

Selector switches for panel ammeter application and auxiliary CTs must not be installed in these circuits.

4.3.4 VOLTAGE TRANSFORMERS

Voltage transformers (VT) which supply the intertie relays shall have a thermal burden rating of 75VA or better and meet requirements of ANSI/IEEE Std C57.13 (IEEE Standard Requirements for Instrument Transformers).

4.3.5 INTERTIE BREAKER CONTROLS

The same control power source used for starting the NEG must be used for tripping each intertie breaker. In the case where this is not possible (either due to separately fused circuits or separate supply sources) all intertie breakers will require watchdog relays on the source supply of the protective relaying and interconnection breaker controls. These watchdog relays will send trip to the intertie or generator breaker. No close transitions will be initiated while the watchdog relay is sending trip.

4.3.6 DUAL GPC SERVICE

Customers with more than one GPC source serving their facilities shall provide open transition transfer between the intertie (or incoming or service entrance) breakers to prevent tying the GPC sources together on the customer side. This bulletin assumes one GPC source can carry the total NEG facility load. If a customer requires uninterrupted transfer between sources, protection requirements for closed-transition transfer shall apply. Please refer to Distribution Bulletin 18-24 for Customer Source Selection Requirements.

5.0 NEG OWNER RESPONSIBILITIES

The NEG Owner is responsible for:

- Informing GPC of intent to install and operate a NEG by completely filling in the Attached Application and submitting all required documentation to GPC for review.
- Designing, installing, commissioning and maintaining all equipment and facilities including the intertie protection devices.
- Calculate the fault currents and impedances required to ensure correct coordination with GPC protection equipment. GPC Power Delivery Systems and Standards may require the fault studies to include multiple scenarios which will be stipulated by the Power Delivery Systems and Standards Engineer after reviewing the signed interconnection application.
- Calculating settings of all intertie protective relays and submitting to GPC for review and acceptance.
- Notifying GPC of any changes to intertie protection devices or generators.

- Ensuring **NEG facility** equipment is adequately protected
- Synchronizing the NEG to the GPC System if Owner chooses a CTT scheme.
- Complying with all applicable Federal, State and Local electrical and safety codes and regulations.
- Periodically maintaining and testing all intertie protection devices.
- Keeping copies of all maintenance test reports on file for GPC review, if required.
- Notifying GPC of change in ownership of NEG facility within 30 calendar days of effective date of ownership change.
- Withdrawing drawout breakers to provide GPC with visible airgap, if disconnect device is a drawout breaker.
- **The cost of** all facility (including system protection) upgrades and/or modifications to the utility System for NEG with CTT scheme.

6.0 APPLICATION

A GPC Customer who wishes to own, install and operate a NEG is required to complete the Application attached to this document. Upon receipt, GPC will evaluate the application and may require the customer to also provide the following documentation:

- A Technical Data Form describing the generator(s) and any interconnecting transformer(s)
- Applicable elementary diagrams.
- Specifications and details of all Generators, Generator Transformers, Intertie & Generator Circuit Breakers, Intertie Protective Relays, Current Transformers and Voltage Transformers and any other major equipment.

GPC Power Delivery Systems and Standards and will review all documents submitted and provide recommended intertie protection requirements to the Customer. The Customer is advised to not purchase any equipment until after the review has been completed. The review may identify modifications to the GPC facilities serving the Customer. The Customer shall be responsible to pay the total cost for the modifications.

7.0 NEG FACILITY INSPECTION AND TEST

NEG Facilities that choose to employ CTT scheme with the electric utility power source shall not be permitted to operate any generation until passing the inspection of the CTT scheme by GPC. The inspection may include, but not be limited to, a witness test that verifies the proper operation of the intertie protection scheme, including trip testing of the breakers by the intertie protective relays under real system conditions.

Prior to the inspection, GPC may require the NEG Owner to complete a checklist which will be provided at the final design meeting. The customer will submit the checklist to GPC for review by Power Delivery Systems and Standards. The customer will schedule a pre-witness test meeting with GPC. At this meeting, the GPC Engineer will review the minimum testing requirements for the facility with the customer.

Once all requirements are met, the NEG owner shall be granted approval for operation of the generating equipment. Neither the inspection nor the granting of approval to operate shall

serve to relieve the NEG owner of any liability for injury, death or damage attributable to the negligence of the owner. The customer shall be responsible for providing a qualified test engineer and a three-phase secondary injection test set capable of accepting a stop signal. The customer's test engineer shall be responsible for all switching and operations of the secondary injection test set.

8.0 OPERATING GUIDELINES

The NEG owner shall operate the generating equipment within the guidelines of this document. GPC reserves the right to disconnect service to the NEG Facility for any of the following reasons:

- A GPC system emergency.
- Departure of NEG Owner from the technical specifications and requirements of this bulletin, including resetting the intertie protection lockout relay without explicit instruction to do so by GPC.
- Personal safety is threatened.

Failure of GPC to disconnect service to NEG Facility shall not serve to relieve the NEG owner of any liability for injury, death or damage attributable to the negligence of the NEG owner.

9.0 REFERENCES

ANSI C2, National Electrical Safety Code.

NFPA 70, National Electrical Code.

NFPA 110, Standard for Emergency and Standby Power Systems.

ANSI/IEEE Std 446, Recommended Practice for Emergency and Standby Power Systems for Industrial and Commercial Applications

ANSI/IEEE C37.90, IEEE Standard for Relays and Relay Systems Associated with Electric Power Apparatus

ANSI/IEEE C37.95, Guide for Protective Relaying of Utility-Consumer Interconnections

ANSI/IEEE Std 242, Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems

10.0 ATTACHMENTS

- Application for Emergency and Standby Generation Installation & Operation
- Statement of Responsibility for Operation of Emergency and Standby Generation on the Georgia Power Company Distribution System
- Single Line Diagram

11.0 APPENDIX

This appendix includes a number of typical open and closed transition transfer scheme circuit configurations as a reference only.

Disclaimer: Georgia Power Company (GPC) provides this information as general information only; GPC does not guarantee the completeness, reliability, or accuracy of any sample configuration and does not warrant that any sample will be appropriate or acceptable for any particular installation. Any decision to rely on these sample configurations is the sole responsibility of the user and at the user's own risk.

- The sample configurations in this bulletin are not intended to dictate any particular design but are provided solely as examples of potential options for use as a design starting point.

- This bulletin does not provide engineering advice to a customer; a customer must engage its own engineer or design professional to design an installation that is appropriate for customer's needs.

- Using one of these sample configurations does not exempt a customer from submitting its NEG design to GPC for review and approval.

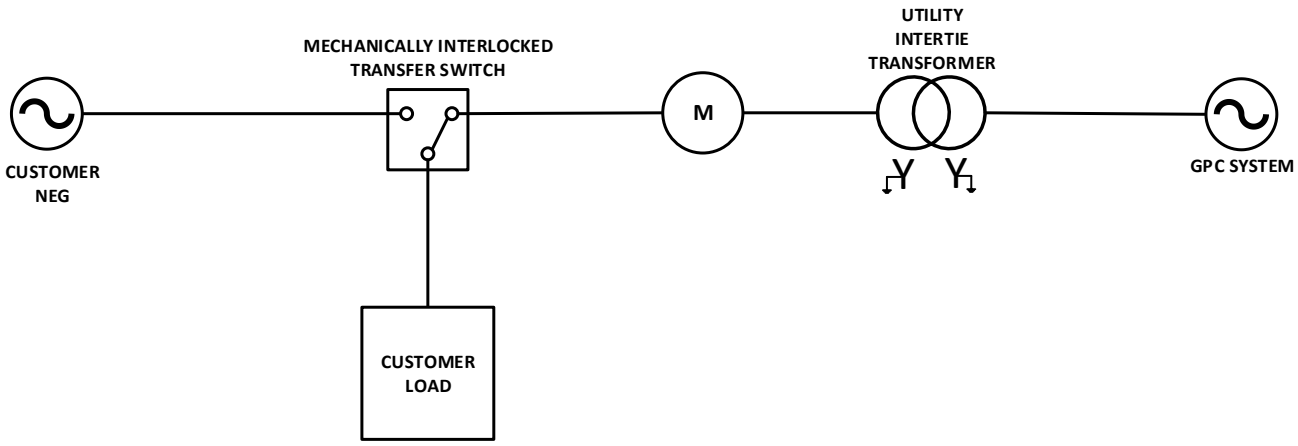
- Customers are strongly advised not to proceed with procurement or installation of equipment before receiving design review and acceptance from GPC, in order to avoid reengineering expense and project delay.

- ANSI Device Numbers Used Key:
  - 27 – Undervoltage Relay/ Undervoltage Element
  - 59 – Overvoltage Relay/ Overvoltage Element
  - 50 – Instantaneous Overcurrent Relay/ Instantaneous Overcurrent Element
  - 51 – Time Overcurrent Relay/ Time Overcurrent Element
  - 67 – Directional Overcurrent Relay/ Directional Overcurrent Element
  - 32 – Directional Power Relay
  - 81 – Over/Under Frequency Relay/Over/Under Frequency Element
  - 52 – Circuit Breaker
  - M – Meter

- Other Abbreviations:
  - 52* - Drawout Type Circuit Breaker operated by pistol grip type control switch that can be racked, locked and tagged out
  - CTR – Current Transformer Ratio
  - PTR – Potential Transformer Ratio

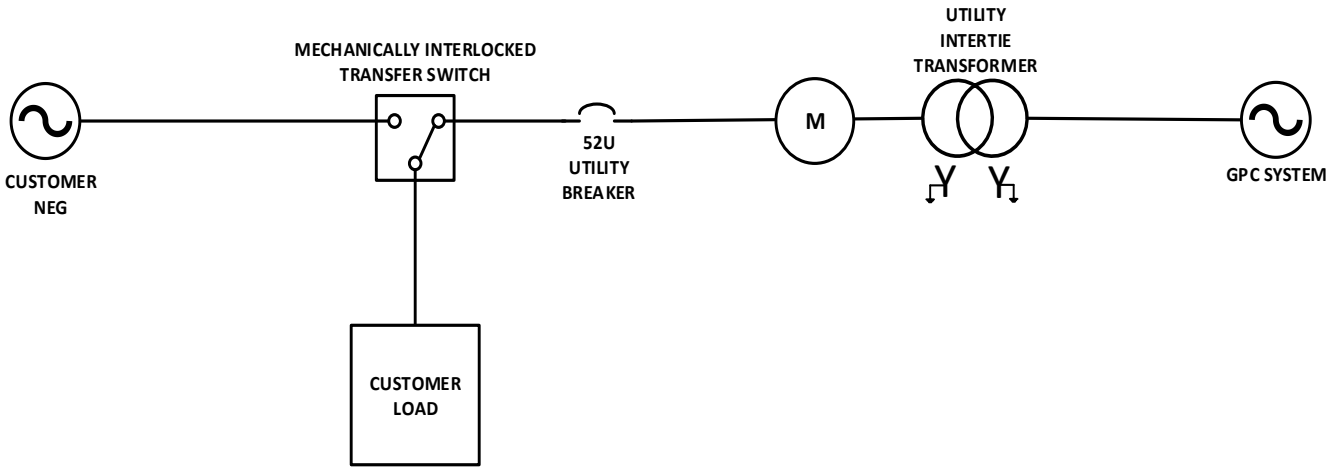
11.1 TYPICAL OPEN TRANSITION TRANSFER (OTT) CONFIGURATIONS

OTT Configuration #1



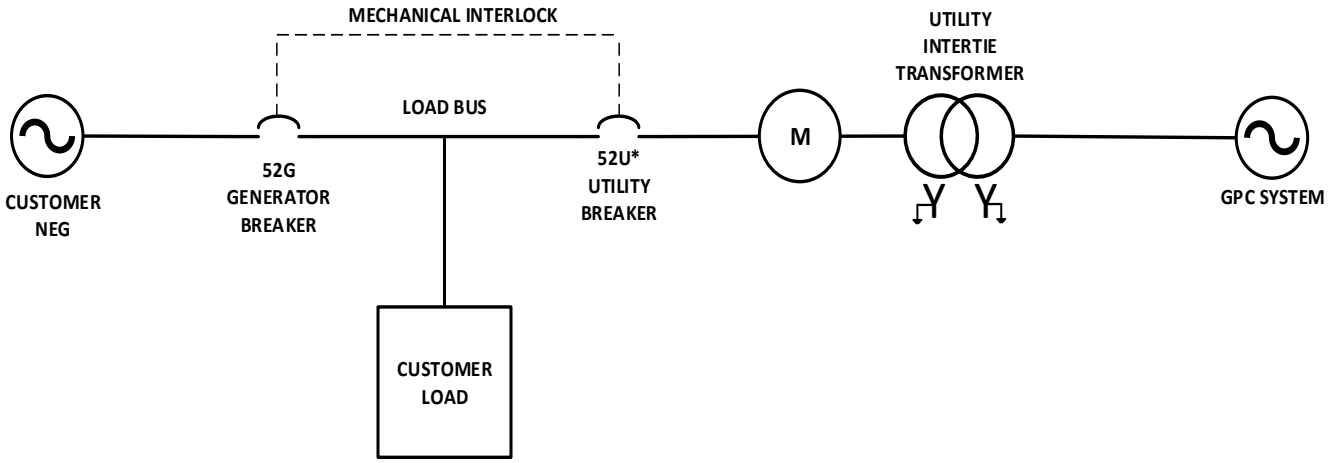
OTT - 1
MECHANICALLY INTERLOCKED TRANSFER SWITCH BASED
OPEN TRANSITION TRANSFER SCHEME

OTT Configuration #2



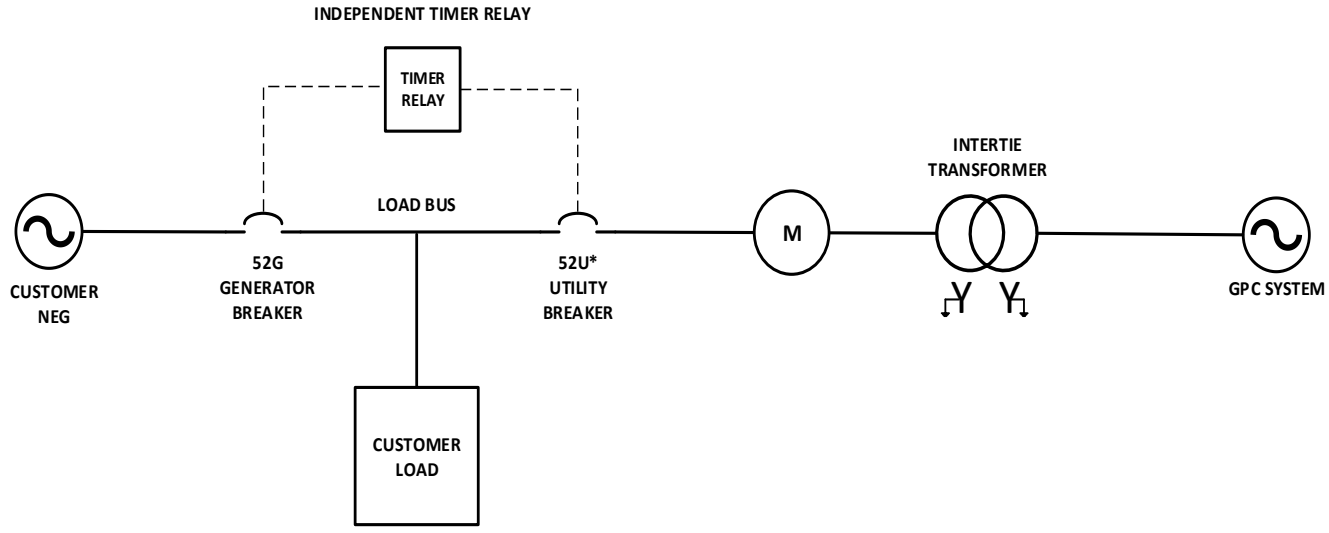
OTT - 2
MECHANICALLY INTERLOCKED TRANSFER SWITCH WITH INCOMING BREAKER OPEN
TRANSITION TRANSFER SCHEME

OTT Configuration #3



OTT – 3
MECHANICALLY INTERLOCKED TWO BREAKERS
OPEN TRANSITION TRANSFER SCHEME

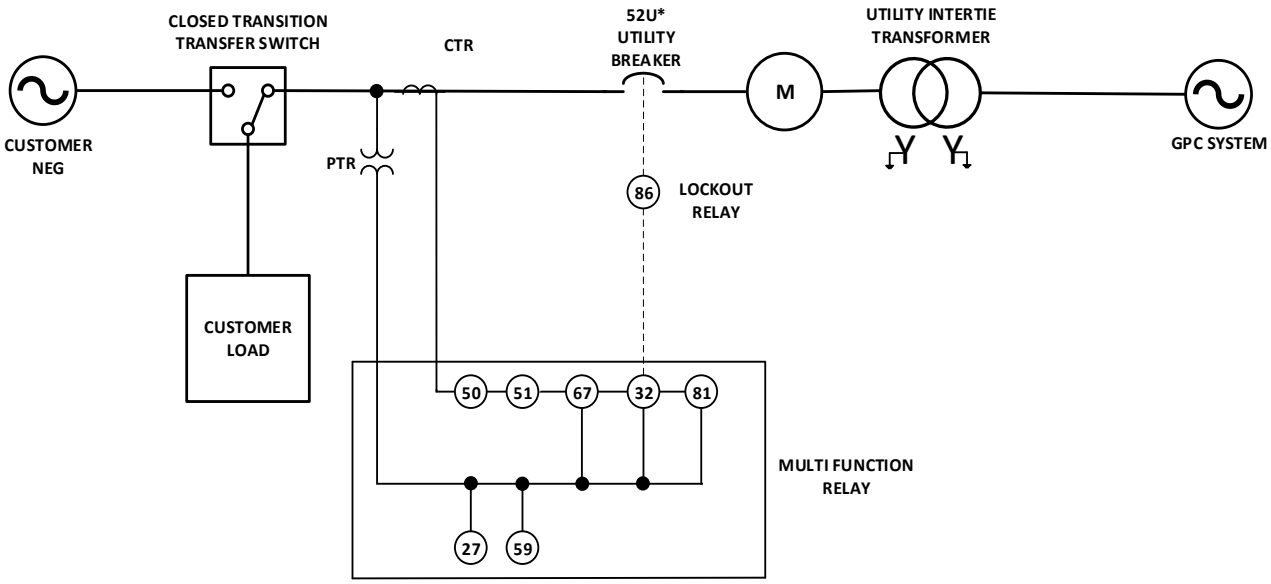
OTT Configuration #4



OTT – 4
INDEPENDENT TIMER RELAY BASED TWO BREAKERS
OPEN TRNANSITION TRANSFER SCHEME

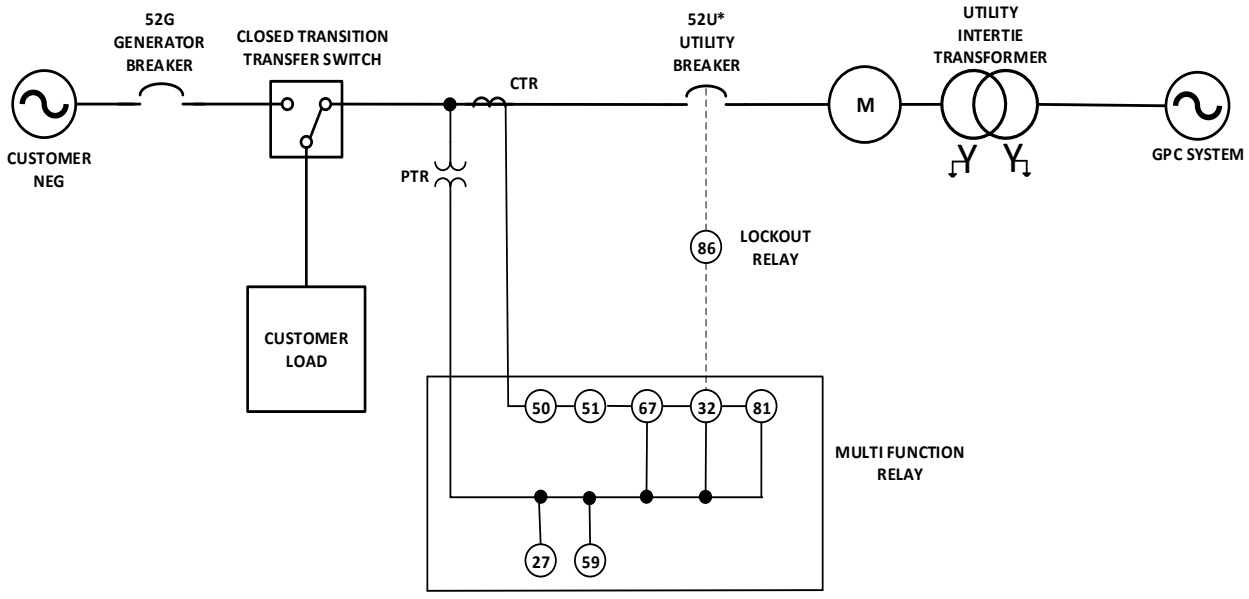
11.2 TYPICAL CLOSED TRANSITION TRANSFER (CTT) CONFIGURATIONS

CTT Configuration #1



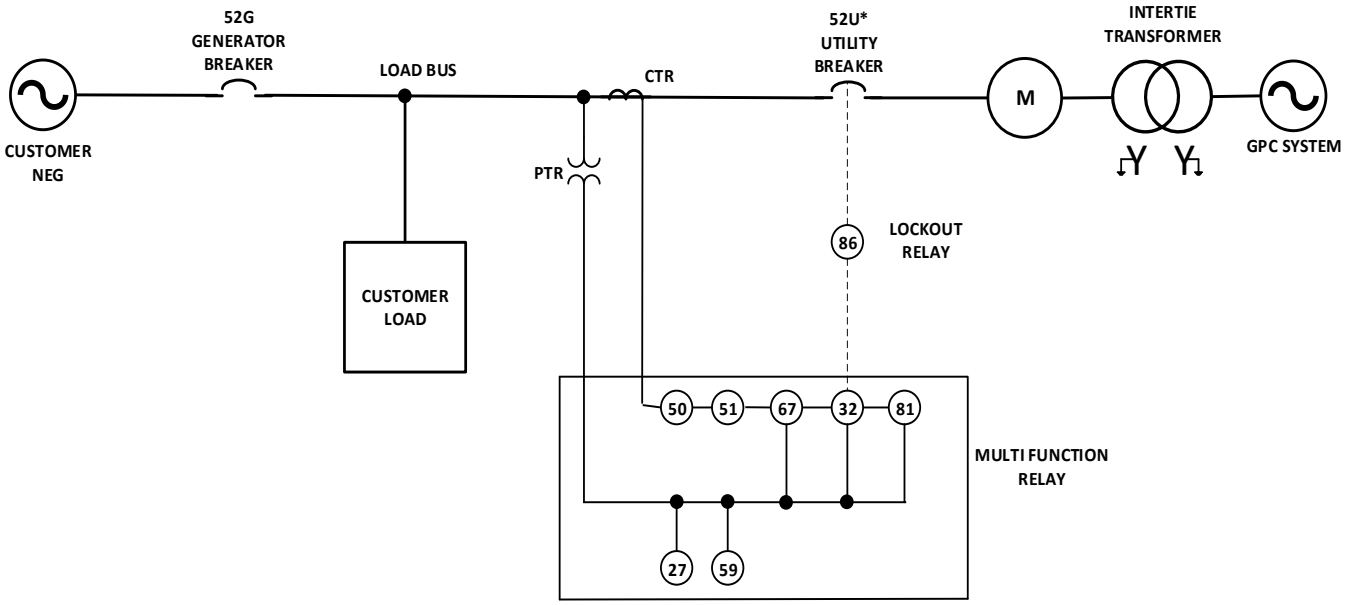
CTT – 1
CLOSED TRNANSITION TRANSFER SWITCH AND UTILITY SIDE BREAKER CLOSED TRANSITION TRANSFER SCHEME

CTT Configuration #2



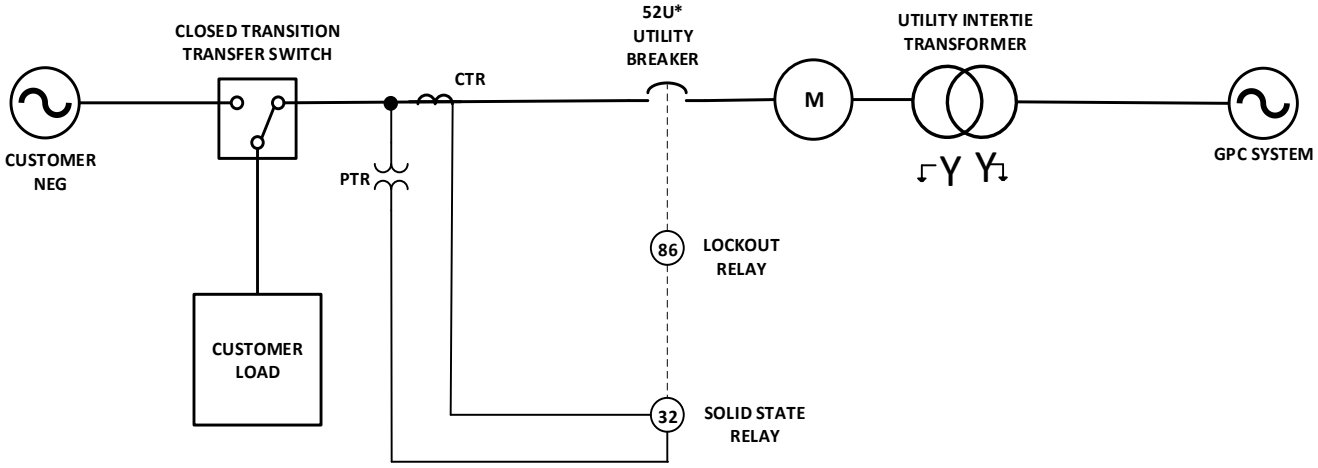
CTT – 2
CLOSED TRNANSITION TRANSFER SWITCH WITH GENERATOR AND UTILITY SIDE BREAKERS CLOSED TRANSITION TRANSFER SCHEME

CTT Configuration #3



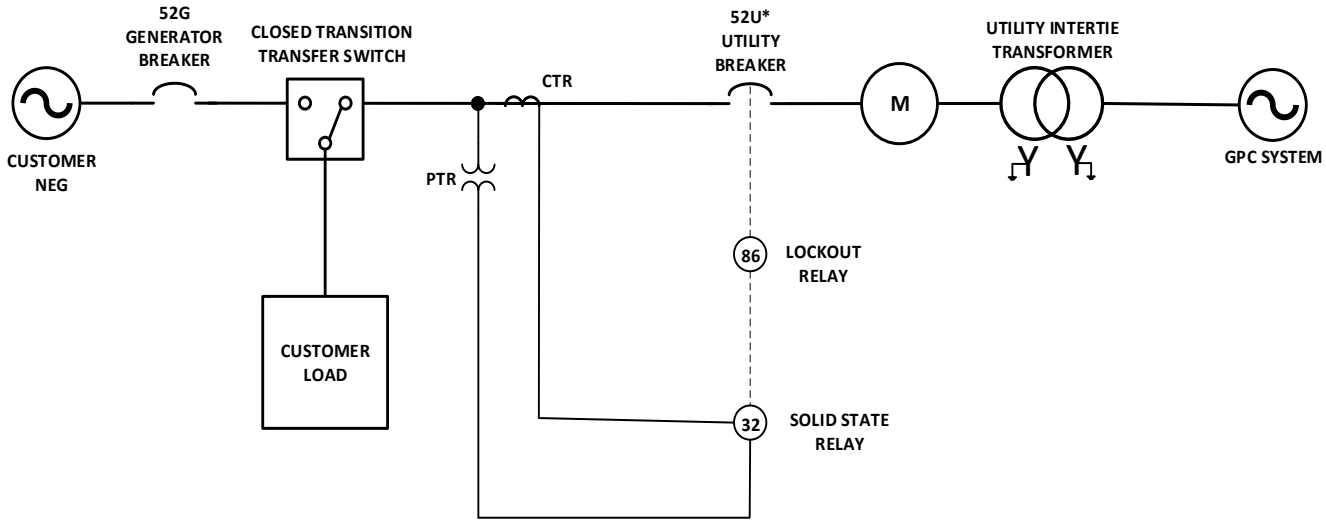
CTT – 3
TWO BREAKERS CLOSED TRNANSITION TRANSFER SCHEME

CTT Configuration #4



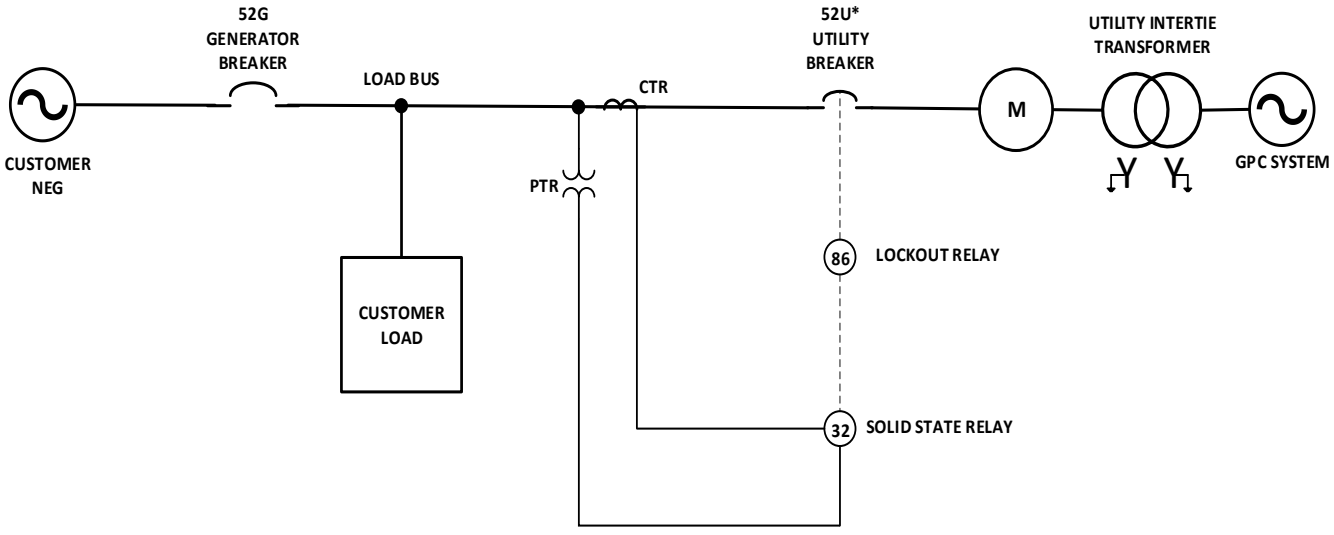
CTT – 4
CLOSED TRANSITION TRANSFER SCHEME WITH
CLOSED TRNANSITION TRANSFER SWITCH AND UTILITY SIDE BREAKER

CTT Configuration #5



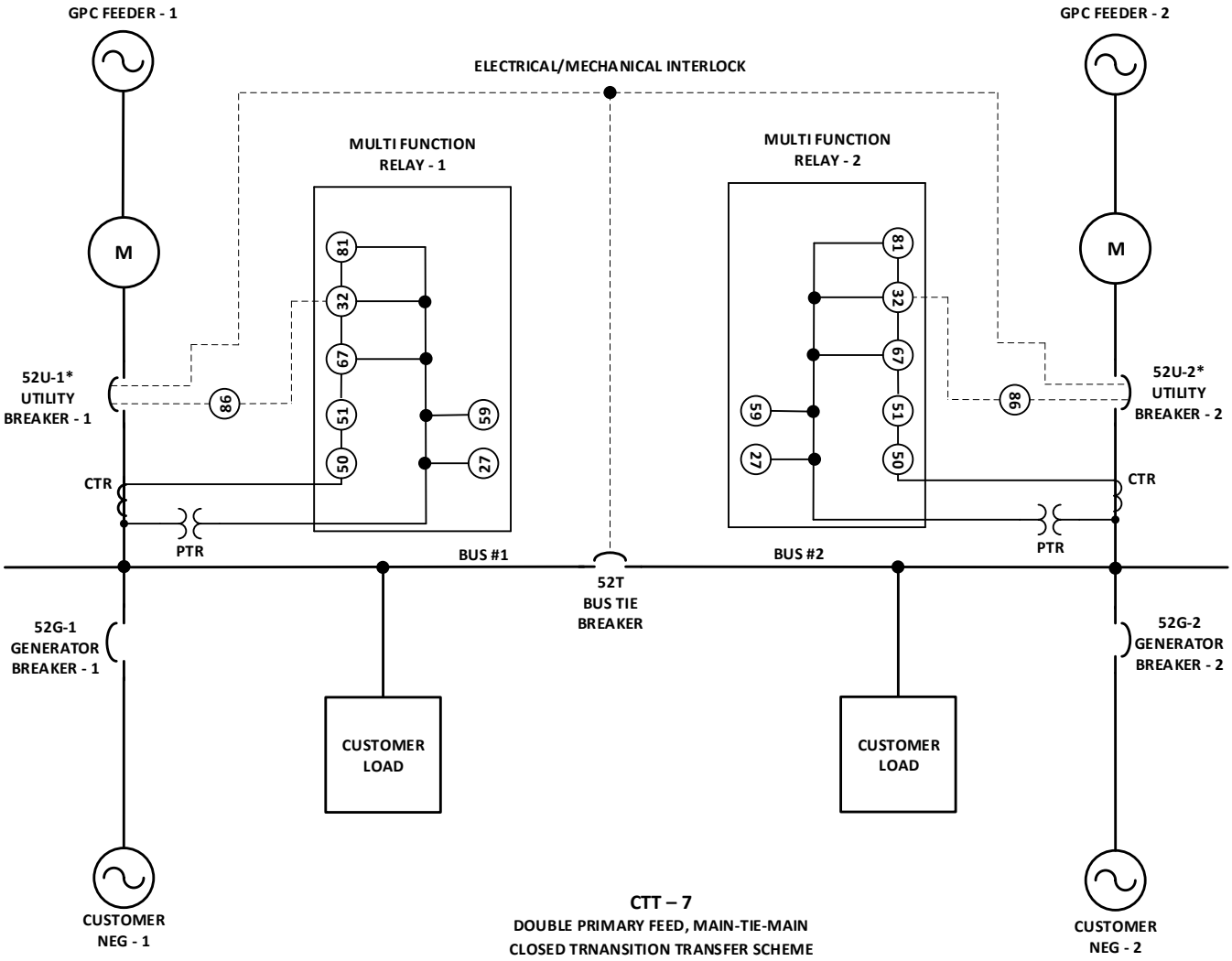
CTT – 5
CLOSED TRANSITION TRANSFER SCHEME WITH
CLOSED TRNANSITION TRANSFER SWITCH WITH GENERATOR AND UTILITY SIDE BREAKERS

CTT Configuration #6



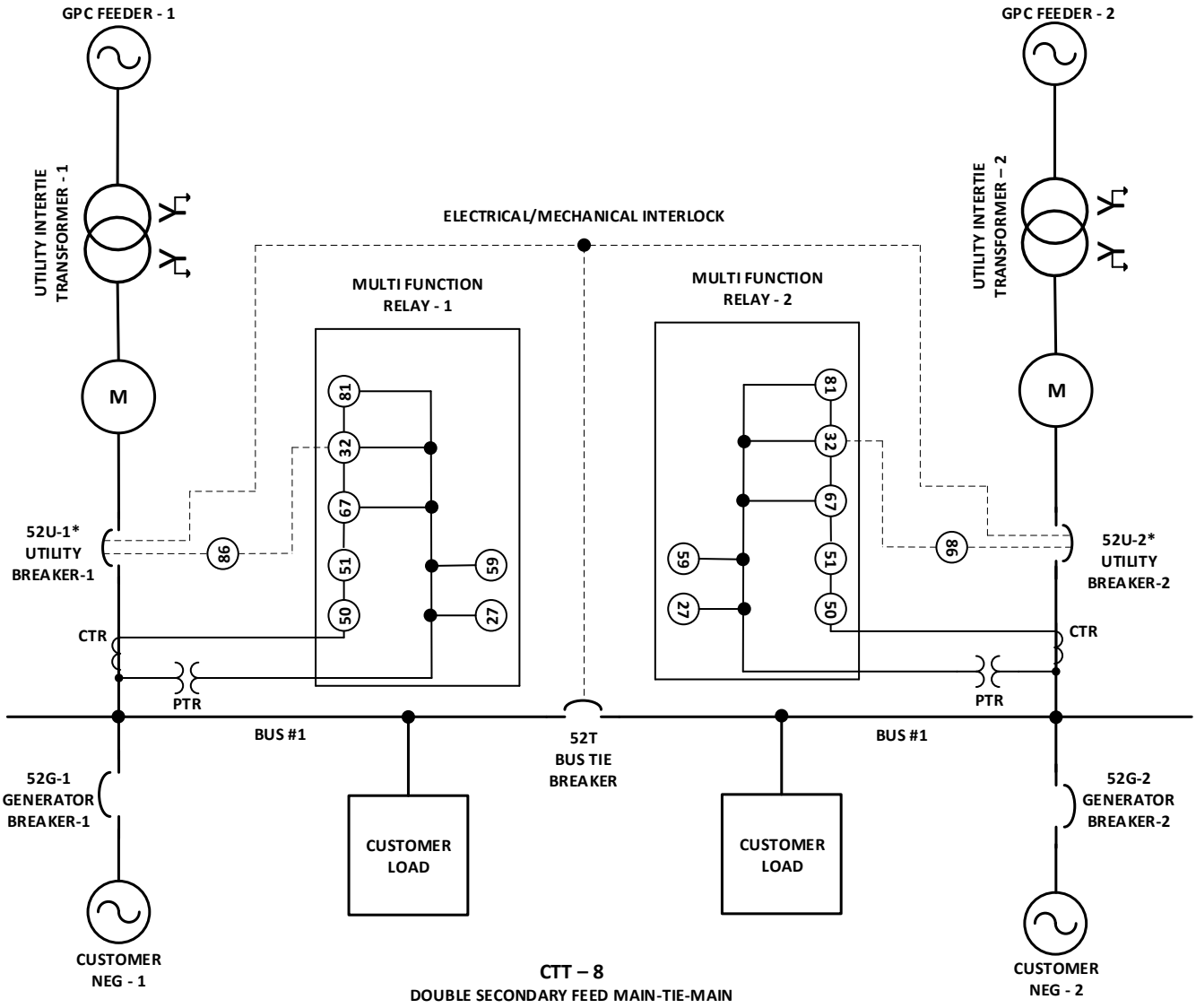
CTT – 6
TWO BREAKERS CLOSED TRNANSITION TRANSFER SCHEME

CTT Configuration #7



CTT – 7
DOUBLE PRIMARY FEED, MAIN-TIE-MAIN
CLOSED TRNANSITION TRANSFER SCHEME

CTT Configuration #8

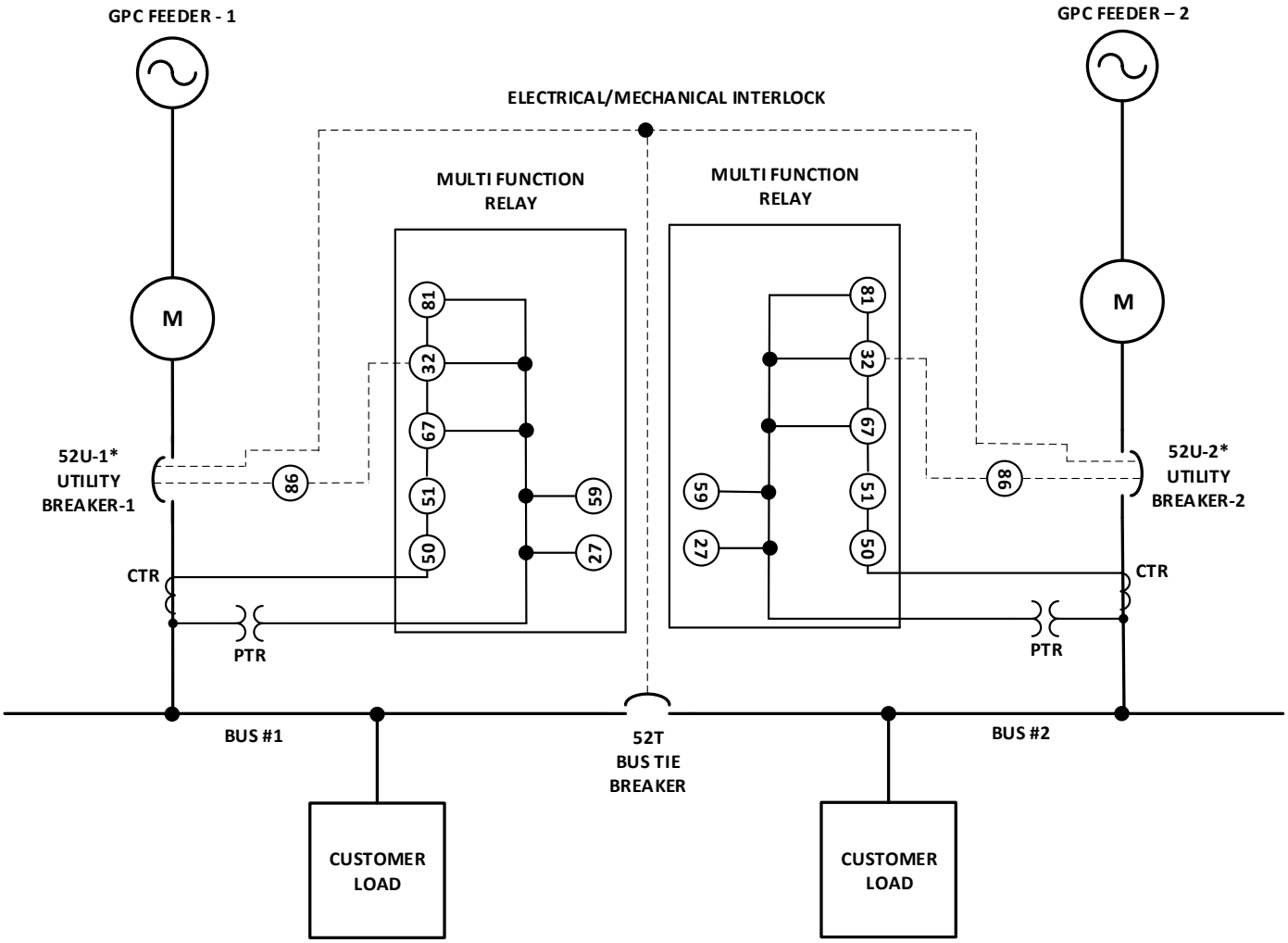


CTT – 8

DOUBLE SECONDARY FEED MAIN-TIE-MAIN

CLOSED TRNANSITION TRANSFER SCHEME

CTT Configuration #9

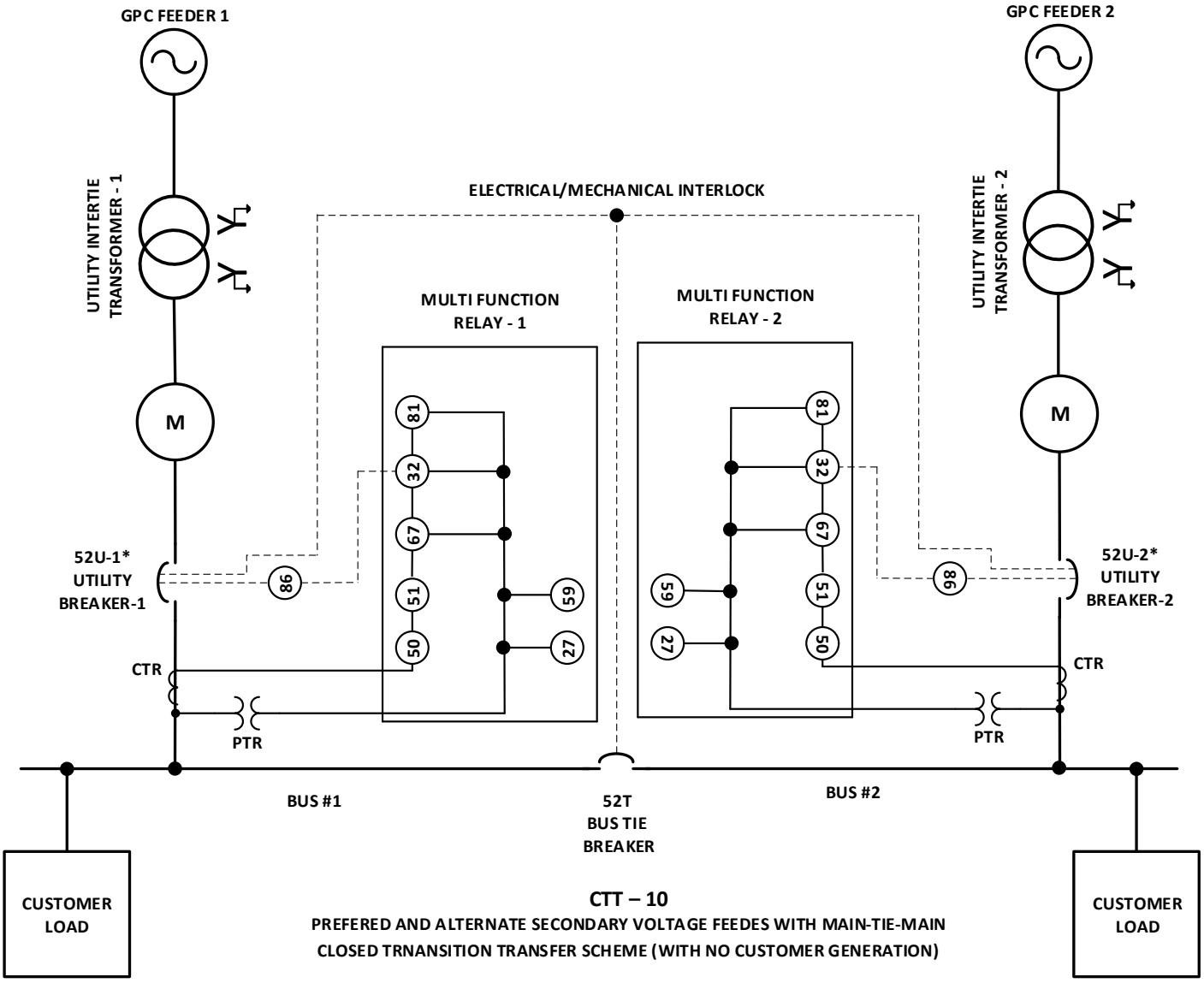


CTT – 9

PREFERED AND ALTERNATE PRIMARY VOLTAGE FEEDES WITH MAIN-TIE-MAIN CLOSED TRNANSITION TRANSFER SCHEME

NOTE: CLOSED TRANSITION TRANSFER IS ONLY FROM ALTERNATE TO PREFERED. DURING LOSS OF PREFERED SUPPLY, THE TRANSITION TO ALTERNATE MUST BE OPEN.

CTT Configuration #10



NOTE: CLOSED TRANSITION TRANSFER IS ONLY FROM ALTERNATE TO PREFERED. DURING LOSS OF PREFERED SUPPLY, THE TRANSITION TO ALTERNATE MUST BE OPEN.

Approved: _____

Christie D. Miree

General Manager, System Performance

Georgia Power

Application for Non-Exporting Generation Installation & Operation

The Customer shall completely fill in this application and return it to Georgia Power Company. Documents submitted with application must include the signed and dated Statement of Responsibility for Operation of Non-Exporting Generation on the Georgia Power Company Distribution System and a facility electrical one-line diagram.

CUSTOMER INFORMATION

Legal Name: _____

Mailing Address: _____ _____ _____ _____

Street City State Zip Code

Contact Person: _____ _____

Name Title

Email Address: _____

Telephone: _____ _____ _____

Day Night Other

NON-EXPORTING ROTATING MACHINE BASED GENERATION

Generator Site Address: _____ _____ _____ _____

Number and Street City Zip Code County

Generator Type: _____ _____ _____ **V** _____ **A**

(Please specify Synchronous, Induction, etc.) # of Phases Voltage Current

Manufacturer: _____ **Model No:** _____

Quantity (number of generators): _____ _____ _____

Pre-existing This Application Total

Output Power: _____ _____ _____ **kW**

Pre-existing This Application Total

Approximate In-service Date: _____

Generators to be installed under this Application

NON-EXPORTING INVERTER BASED GENERATION

Generator Site Address: _____ _____ _____ _____

Number and Street City Zip Code County

Number of Inverters: _____ **Manufacturer:** _____ **Model No.:** _____

Rated Output: _____ **V** _____ **A** _____

Voltage Current # of Phases

Output Power: _____ _____ _____ **kW**

Pre-existing This Application Total

Commutation: _____

Specify (Line/Utility-interactive or Self-Commutated)

Harmonic Distortion: _____ **%** _____ **%**

Maximum Single Harmonic Distortion Maximum Total Harmonic Distortion

Does the Generator Operate at a Unity Power Factor (100 %)? **Yes** ☐ **No** ☐

Will the Generator be used to export power? **Yes** ☐ **No** ☐

Are the inverters UL 1741 Certified? **Yes** ☐ **No** ☐

Are the inverters IEEE 1547 certified? **Yes** ☐ **No** ☐ **If "Yes", IEEE 1547 Revision Number:** _____

POWER SOURCE TRANSFER SCHEME

Method of Transfer from Electric Utility Power Source to NEG Source (check one):

☐ Open Transition ☐ Closed Transition

(Please refer to the definition of Open Transition Transfer in section 4.2 above before selecting Open Transition Transfer.)

Method of Transfer from NEG Source to Electric Utility Power Source (check one):

☐ Open Transition ☐ Closed Transition

(Please refer to the definition of Open Transition Transfer in section 4.2 above before selecting Open Transition Transfer.)

Power Source Transfer Device: _____

Specify (Breakers, Switches, etc.) & Type of Interlock

If Open Transition ATS:

ATS Manufacturer: _____

ATS Model Number: _____

ATS Serial Number: _____

If Closed Transition Transfer, will NEG be used for Peak Shaving or Cogeneration? Yes ☐ No ☐

I certify that I have examined this application, including accompanying documents. To the best of my knowledge and belief, all documents are true, correct and complete.

_____	_____	_____
Print Name	Signature	Date

TO BE FILLED OUT BY GEORGIA POWER COMPANY

Substation: _____

Circuit: _____

Transformer: _____

Meter: _____

Georgia Power

Statement of Responsibility for Operation of Non-Exporting Generation on the Georgia Power Company Distribution System

As a Georgia Power Company Customer with a Non-Exporting Generator (NEG), I confirm that I have read and am in agreement with the requirements and responsibilities set forth in Georgia Power Company's Distribution Bulletin **18-23**. I understand and agree that I shall not allow the operation of my generator(s) to have a negative impact on the safe and reliable operation of the Georgia Power Company system or the level of service to other Georgia Power Company customers.

I accept the responsibility for the periodic calibration and operational testing of all Intertie Protective Relaying systems required by Georgia Power Company in Distribution Bulletin **18-23**. I agree that in order to monitor compliance, Georgia Power Company retains the right to review the test and maintenance records for the Intertie Protective Relaying.

I understand that Georgia Power Company is not responsible for the protection, operation, or maintenance of my generator(s) and I hereby release Georgia Power Company from any such liability.

I agree to report any change in the ownership or operator of this NEG to Georgia Power Company in writing, within 30 days of such change. I agree to submit any change in the scope of the NEG installation (such as adding additional generators), which could affect the compliance of Distribution Bulletin **18-23**, to Georgia Power Company for review.

In the event of non-compliance of these responsibilities, I understand that Georgia Power Company may elect to disconnect service to the NEG Facility, until such time as compliance is achieved. I understand and agree that Georgia Power Company accepts no liability for consequences associated with a non-compliance disconnect, and I hereby release Georgia Power Company from any such liability.

NEG Facility Legal Name: _____

Address: _____

Generator(s) Identification: _____

_____

Facility Owner: _____

Facility Owner Signature: _____ Date: _____

Address any changes involving this NEG installation to:

Engineering Supervisor
Power Delivery Systems and Standards
Georgia Power Company
Bin 20020
241 Ralph McGill Blvd. NE
Atlanta, GA 30308-3374

SINGLE LINE DIAGRAM

Please provide a one-line diagram showing how the generator, utility, load and transfer equipment will be connected. Please make sure to clearly label breakers, switches, generators and owner of conductors.

Date: _____

Contact Person: _____

Telephone Number: _____

Email Address: _____