



## Connect:

### QC3

Quick Connect 3 Breaker

0–480VAC, 150A–4000A, up to 100kAIC  
Specification Sheet & Selection Guide

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# QC3 Overview

## General Description



Lake Shore Electric's QC3 (Quick Connect 3 Breaker) is an all-in-one solution for the coordination of a temporary alternate power source and load bank into an emergency system. All QC3 products are designed with a dedicated permanent generator breaker that is mechanically interlocked with a temporary generator breaker. A dedicated load bank breaker is also integrated on the line side of the permanent generator breaker to allow for isolated load bank testing, allowing the standard configuration of the QC3 to meet the intent of NEC 700.3(F).

NEC 700.3(F) 2017 States:

If the emergency system relies on a single alternate source of power, which will be disabled for maintenance or repair, the emergency system shall include permanent switching means to connect a portable or temporary alternate source of power, which shall be available for the duration of the maintenance or repair.

Standard Configuration Includes:

- Mechanically Interlocked UL 489 Breakers
- Color-Coded Camlock Receptacles for Temporary Connections
- NEMA 3R Enclosure
- Grounded Dead Front Covers
- Phase Rotation Monitor with Indicating Light
- Auxiliary Contact for Switch Position
- 2-Wire Start Binding Post
- 120VAC Shunt Trip<sup>1</sup>
- NEMA 5-20R GFCI Receptacle<sup>2</sup>

Optional accessories are also available. See the QC3 Selection Guide on page 4 for additional details.

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<sup>1</sup> Control circuit provided by others  
<sup>2</sup> Power by others

# Technical Data

## Molded Case & Insulated Case



Table 1: QC3 Switching Device – Molded Case Technical Details

| kAIC @ 480V | Rated Current (A) | Disconnect Breaker |               |
|-------------|-------------------|--------------------|---------------|
|             |                   | 2 Pole †           | 3 Pole        |
| 35          | 150               | PDG22G0150TFF      | PDG23G0150TFF |
|             | 400               | PDG32G0400TFA      | PDG33G0400TFA |
| 50          | 800               | PDG52K0800E2R      | PDG53K0800E2R |
|             | 1200              | PDG53K1200E4R      | PDG53K1200E4R |
| 65          | 150               | PDG22M0150TFF      | PDG23M0150TFF |
|             | 400               | PDG32M0400TFA      | PDG33M0400TFA |
|             | 800               | PDG52M0800E2R      | PDG53M0800E2R |
|             | 1200              | PDG52M1200E4R      | PDG53M1200E4R |

Table 2: QC3 Switching Device – Insulated Case Technical Details

| kAIC @ 480V | Rated Current (A) | Disconnect Breaker |
|-------------|-------------------|--------------------|
|             |                   | 3 Pole             |
| 65          | 1600              | MPS6163VEA162      |
|             | 2000              | MPS6203VEA202      |
|             | 3200              | MPS6323VEA322      |
| 100         | 1600              | MPSC163VEA162      |
|             | 2000              | MPSC203VEA202      |
|             | 3200              | MPSC323VEA322      |
|             | 4000              | MPSC4N3VEA402      |

- Models 150A - 1200A are Eaton Power Defense Molded Case Breakers
- Models 1600A and above are Eaton® Magnum PXR® Low Voltage Power Circuit Breakers
- An electronic trip unit may be used in place of thermal-magnetic trip unit at LSE discretion
- † 3-pole variant with the center phase open may be used in place of a 2-pole at LSE discretion
- Arcflash Reduction Maintenance System™ (ARMS™) is included on all breakers 1200A and greater
- A higher withstand rating and/or frame rating may be used in place of a lesser rating at LSE discretion
- Contact factory for technical information on switching devices or withstand ratings not listed in Table 1 or Table 2
- Data subject to change without notice

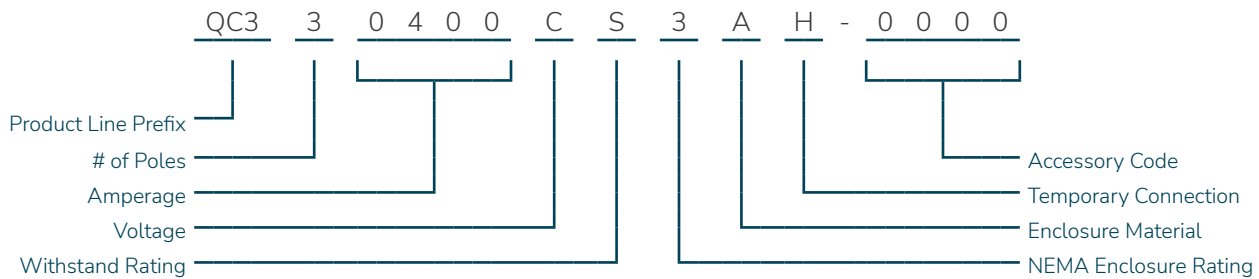
# QC3 Selection Guide

## Characters & Designations



The QC3 product line has a structured, smart-style model code ordering system. The complete model code is built up of 17 customer selected characters. Each character identifies features or functions that can be incorporated into the design. The first thirteen characters of the model code define the basic configuration, followed by four characters that identify any accessories.

Sample Model Code:



# QC3 Selection Guide

## Model Code Configuration



### Number of Poles

Following the QC3 prefix of the model code is the number of poles. Available in configurations of 2-pole and 3-pole, this selection is dependent on the system voltage.

Table 3: Number of Poles

| Poles | Alpha Numeric |
|-------|---------------|
| 2     | 2             |
| 3     | 3             |

### Amperage

With the exception of the 150A model, standard sizes of the QC3 are available in 400A increments through 4000A. Contact the factory for alternate amperages.

Table 4: Amperage Code

| Amps  | Alpha Numeric |
|-------|---------------|
| 150A  | 0150          |
| 400A  | 0400          |
| 800A  | 0800          |
| 1200A | 1200          |
| 1600A | 1600          |
| 2000A | 2000          |
| 3200A | 3200          |
| 4000A | 4000          |

### Voltage Code

Identification of the voltage determines the color of camlock receptacles (per NEC standard), as well as control voltage circuits and service entrance requirements (when applicable).

Table 5: Voltage Code

| Voltage     | Phase/Wire | Alpha Numeric |
|-------------|------------|---------------|
| 120/240VAC  | 1 Ph 3W    | A             |
| 208Y/120VAC | 3 Ph 4W    | B             |
| 480Y/277VAC | 3 Ph 4W    | C             |
| 120/240VAC  | 3 Ph 4W    | G             |
| 480VAC      | 3 Ph 3W    | K             |

### Withstand Rating

The below tables are based on UL 489 & 1066 Switching Device Ratings at 480VAC; Lower voltages offer higher kAIC ratings within the same alphanumeric code. Contact the factory for these ratings.

Table 6: Molded Case Withstand Code

| Amperage     | kAIC          | Alpha Numeric |
|--------------|---------------|---------------|
| 150A – 400A  | 35kAIC @ 480V | S             |
| 800A – 1200A | 50kAIC @ 480V | S             |
| 150A – 1200A | 65kAIC @480V  | H             |

Table 7: Insulated Case Withstand Code

| Amperage      | kAIC           | Alpha Numeric |
|---------------|----------------|---------------|
| 1600A – 3200A | 65kAIC @ 480V  | S             |
| 4000A         | 100kAIC @ 480V | S             |
| 1600A – 3200A | 100kAIC @480V  | H             |

### NEMA Enclosure Rating

The QC3 is built with a minimum enclosure rating of NEMA 3R. Additional ratings are listed below.

Table 8: NEMA Code

| Environmental Rating | Alpha Numeric |
|----------------------|---------------|
| NEMA 3R              | 3             |

### Enclosure Material

The standard enclosure material of the QC3 is hot rolled steel with a textured ANSI 61 gray powder coat finish. Additional materials are listed below.

Table 9: Enclosure Code

| Material                                    | Alpha Numeric |
|---|---------------|
| Hot Rolled Steel – ANSI 61 Gray Powder Coat | A             |
| Stainless Steel – 304 (#4 Brushed Finish)   | C             |
| Stainless Steel – 316 (#4 Brushed Finish)   | D             |

### Camlock Connection Style

The selection of the camlock style allows for the QC3 to be configured with female and male 400A single pole UL 1691 listed receptacles.

Table 10: Camlock Style Code

| Connection Type | Ampacity | Alpha Numeric |
|-----------------|----------|---------------|
| Male & Female   | 400A     | H             |

# QC3 Selection Guide

## Accessory Code Configuration



### Accessory Code Position 1

The first position of the four-digit accessory code is reserved for future expansion to the QC3 product line with 0 being the only available character at this time.

Table 11: Accessory Code 1

| Description                | Alpha Numeric |
|----------------------------|---------------|
| No Option (For Future Use) | 0             |

### Accessory Code Position 2

The second position of the four-digit accessory code is reserved for future expansion to the QC3 product line with 0 being the only available character at this time.

Table 12: Accessory Code 2

| Description                | Alpha Numeric |
|----------------------------|---------------|
| No Option (For Future Use) | 0             |

### Accessory Code Position 3

The third position of the four-digit accessory code provides the options for Space Heaters.

- Space Heaters operate on 120VAC and may include a control power transformer when necessary. Over-current protection and an adjustable thermostat are also provided.

Table 13: Accessory Code 3

| Description  | Alpha Numeric |
|--------------|---------------|
| No Option    | 0             |
| Space Heater | 1             |

### Accessory Code Position 4

The fourth position of the four-digit accessory code is reserved for future expansion to the QC3 product line with 0 being the only available character at this time.

Table 14: Accessory Code 4

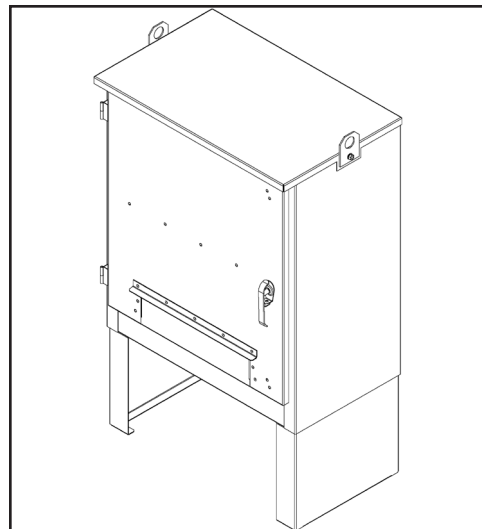
| Description | Alpha Numeric |
|-------------|---------------|
| No Option   | 0             |

### Optional Leg Kit

A leg kit is available for QC3 wall mount enclosures, which allows the unit to become free-standing. This kit is sold separately and can be purchased by using the part number below that corresponds to the enclosure material of the QC3.

Table 15: Leg Kit

| Description                                 | Part Number     |
|---|-----------------|
| Hot Rolled Steel – ANSI 61 Gray Powder Coat | QC-LK-474025-3A |
| Stainless Steel – 304 (#4 Brushed Finish)   | QC-LK-474025-3C |
| Stainless Steel – 316 (#4 Brushed Finish)   | QC-LK-474025-3D |



# Weights & Dimensions

## Molded Case (150A - 1200A)

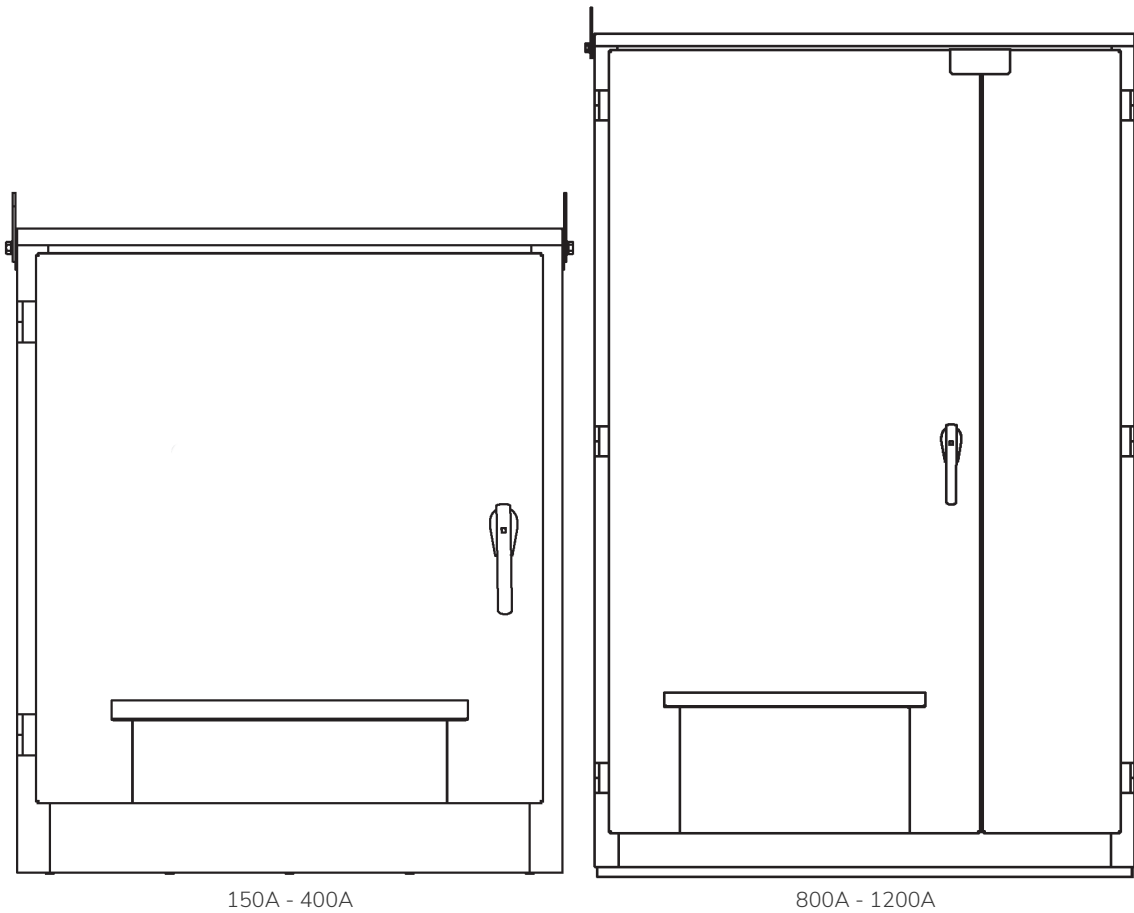


Table 16: Weights & Dimensions - Molded Case <sup>1</sup>

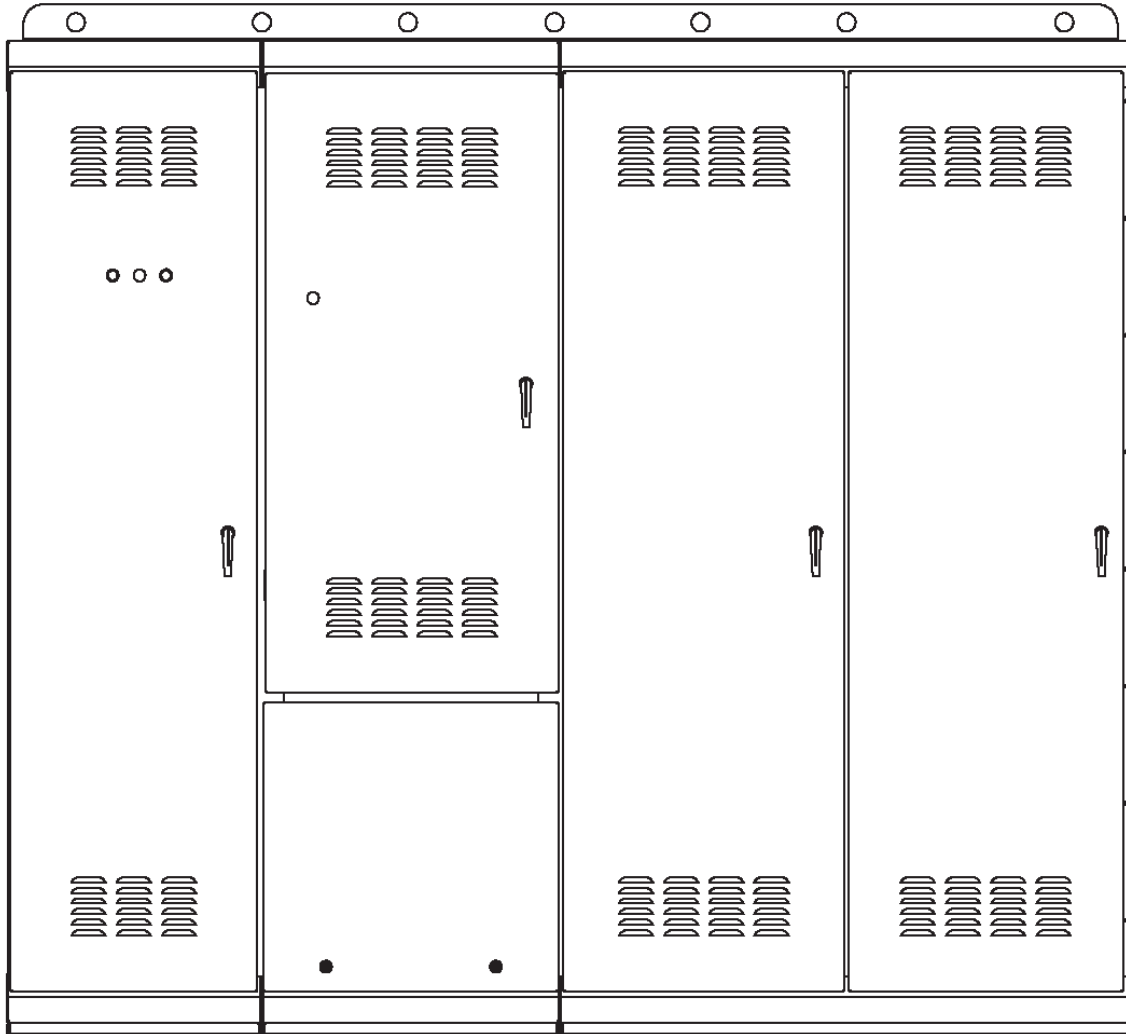
| Ampacity                    | 150 – 400 (Wall Mount Only) | 800 – 1200 (Free Standing) |
|-----------------------------|-----------------------------|----------------------------|
| Height                      | 47"                         | 84"                        |
| Width                       | 40"                         | 54"                        |
| Depth                       | 25"                         | 25"                        |
| Approximate Weight          | 525 lbs                     | 1300 lbs.                  |
| Drawing Number <sup>1</sup> | QC30204-M001                | QC30812-M001               |

<sup>1</sup> Weights and dimensions are not for construction. Please refer to drawing for complete information



# Weights & Dimensions

## Insulated Case (1600 - 4000A)



1600A - 4000A

Table 17: Weights & Dimensions - Insulated Case <sup>1</sup>

|                             |                 |                 |
|-----------------------------|-----------------|-----------------|
| Ampacity                    | 1600 - 3200     | 4000            |
| Height                      | Contact Factory | Contact Factory |
| Width                       |                 |                 |
| Depth                       |                 |                 |
| Approximate Weight          |                 |                 |
| Drawing Number <sup>1</sup> |                 |                 |

<sup>1</sup> Weights and dimensions are not for construction. Please refer to drawing for complete information

# Connection Information

## Lug Size & Quantity



Table 18: Permanent Cable Termination Data

| Ampacity | Location | Standard Lugs:<br>Qty. & Range | Ground          |
|----------|----------|--------------------------------|-----------------|
| 150A     | Source 1 | (1) #6 – 350MCM                | (1) #14 – 1/0   |
|          | Load     | (1) #6 – 350MCM                |                 |
|          | Neutral  | (1) #6 – 350MCM                |                 |
| 400A     | Source 1 | (2) #2 – 600MCM                | (1) #14 – 1/0   |
|          | Load     | (2) #2 – 600MCM                |                 |
|          | Neutral  | (2) #2 – 600MCM                |                 |
| 800A     | Source 1 | (4) 300 – 750MCM               | (1) #6 – 250MCM |
|          | Load     | (4) 300 – 750MCM               |                 |
|          | Neutral  | (4) 300 – 750MCM               |                 |
| 1200A    | Source 1 | (4) 300 – 750MCM               | (1) #6 – 250MCM |
|          | Load     | (4) 300 – 750MCM               |                 |
|          | Neutral  | (4) 300 – 750MCM               |                 |
| 1600A    | Source 1 | (5) 300 – 750MCM               | (4) #6 – 350MCM |
|          | Load     | (5) 300 – 750MCM               |                 |
|          | Neutral  | (5) 300 – 750MCM               |                 |
| 2000A    | Source 1 | (6) 300 – 750MCM               | (4) #6 – 350MCM |
|          | Load     | (6) 300 – 750MCM               |                 |
|          | Neutral  | (6) 300 – 750MCM               |                 |
| 3200A    | Source 1 | (8) 300 – 750MCM               | (4) #6 – 350MCM |
|          | Load     | (8) 300 – 750MCM               |                 |
|          | Neutral  | (8) 300 – 750MCM               |                 |
| 4000A    | Source 1 | (12) 300 – 750MCM              | (4) #6 – 350MCM |
|          | Load     | (12) 300 – 750MCM              |                 |
|          | Neutral  | (12) 300 – 750MCM              |                 |

# Contact Us

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Lake Shore Electric, LLC.  
5 Hemisphere Way  
Bedford, OH 44146

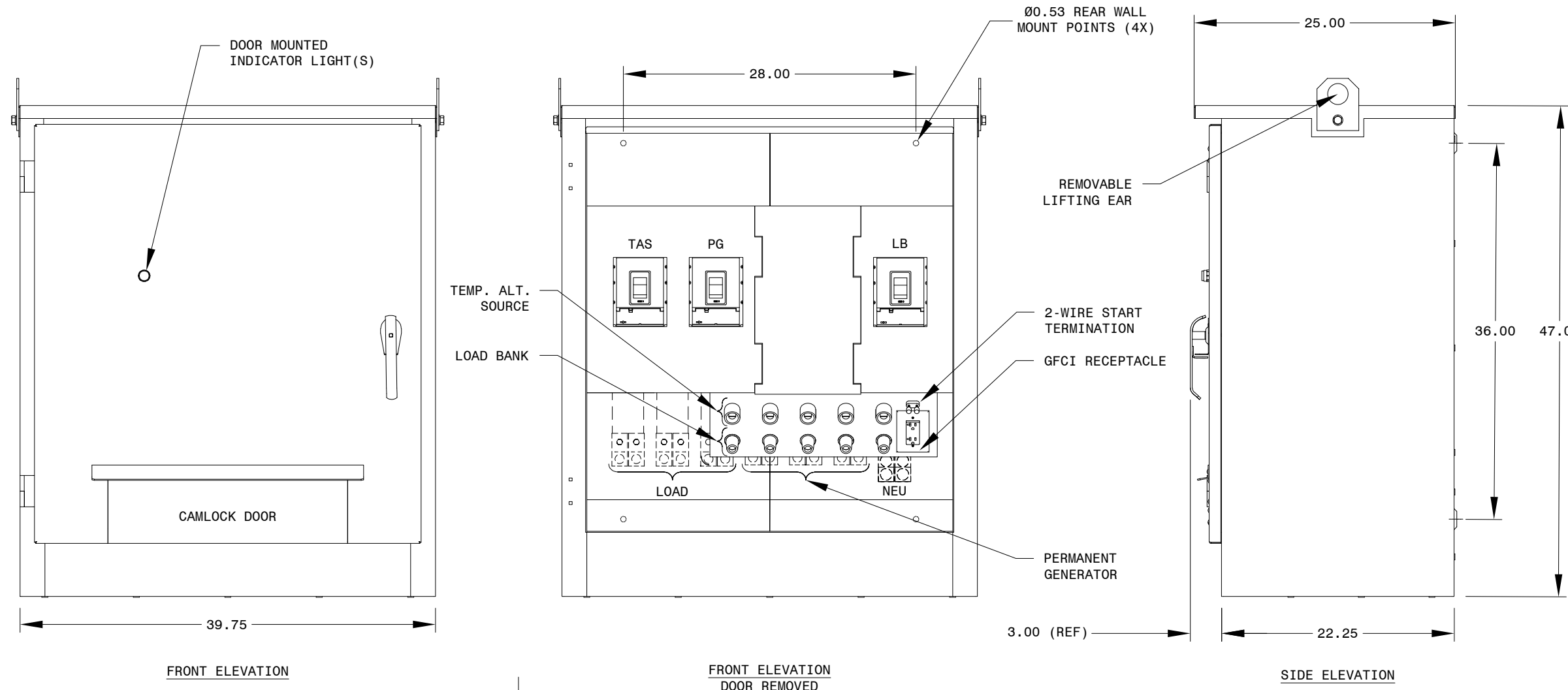
Phone: 440.232.0200

E-Mail: [Sales@lake-shore-electric.com](mailto:Sales@lake-shore-electric.com)

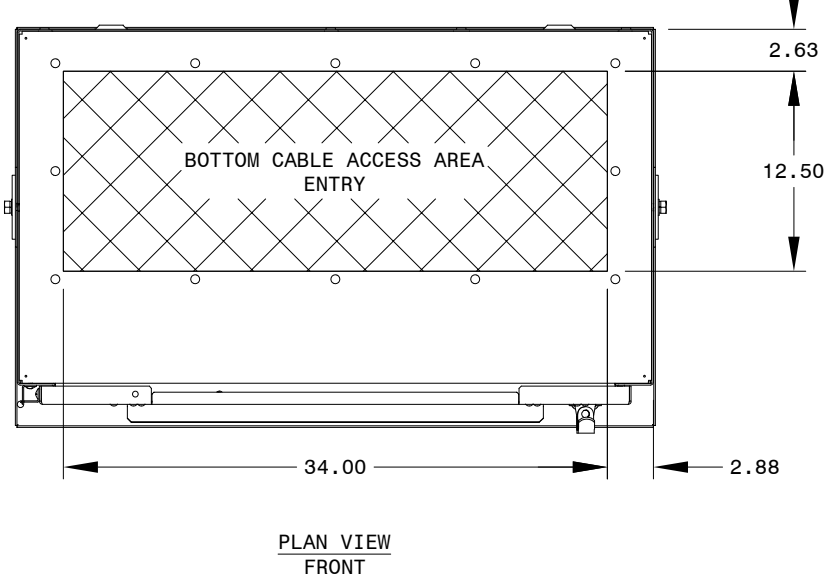
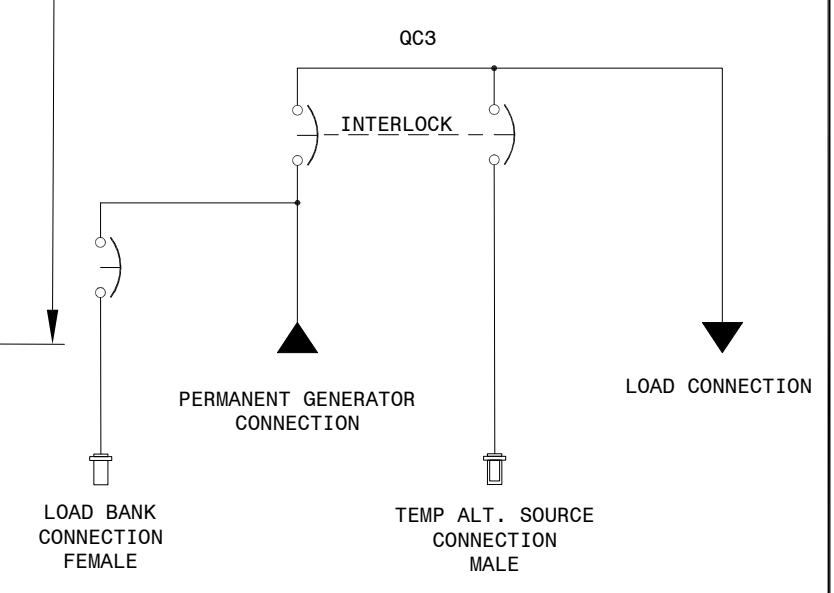
[www.lseconnect.com/qc3](http://www.lseconnect.com/qc3)

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- OUTLINE NOTES**
- 1) ENCLOSURE CONSTRUCTION: NEMA 3R
  - 2) WALL MOUNT
  - 3) CABLE ENTRY LOCATION: BOTTOM
  - 4) DOOR INFORMATION:  
 MAIN DOOR: LEFT HINGED, PADLOCKABLE WITH 3-POINT LATCHING  
 CAMLOCK DOOR: TOP HINGED, INTERNAL LATCH
  - 5) DEADFRONTED
  - 6) CAMLOCKS  
 A) COLOR AND ARRANGEMENT PER NATIONAL ELECTRIC CODE (NEC)  
 B) MANUFACTURER & SERIES: CROUSE-HINDS "J" SERIE E1016, 400A RATING, ALL AMPACITIES, OR EQUIVALENT.
  - 7) ALL DIMENSIONS EXPRESSED IN INCHES
  - 8) ESTIMATED WEIGHT: 525LBS



| CABLE TERMINATIONS FOR LOAD AND PERMANENT GENERATOR |             |               |             |
|---|-------------|---------------|-------------|
| AMPERAGE  | TYPE        | PHASE/NEU     | GROUND      |
| 400A  | PERMA. GEN. | (2) #2-600MCM | (1) #14-1/0 |
|   | LOAD        |               |             |
| 150A  | PERMA. GEN. | (1) #6-350MCM |             |
|   | LOAD        |               |             |

| REV | DESCRIPTION                     | BY  | APV | DATE     |
|-----|---------------------------------|-----|-----|----------|
| -   | ORIGINAL ISSUE                  | DGW | -   | 03/03/22 |
| A   | UPDATED DESIGN                  | DGW | -   | 10/25/22 |
| B   | UPDATED OUTLINE NOTES           | DGW | -   | 01/25/23 |
| C   | SWAPPED TEMP AND LOAD BANK BRKR | DGW | -   | 09/08/23 |
| -   | -                               | -   | -   | -        |
| -   | -                               | -   | -   | -        |
| -   | -                               | -   | -   | -        |

TITLE: QUICK CONNECT WITH 3 BREAKER  
 QC3 UP TO 400A

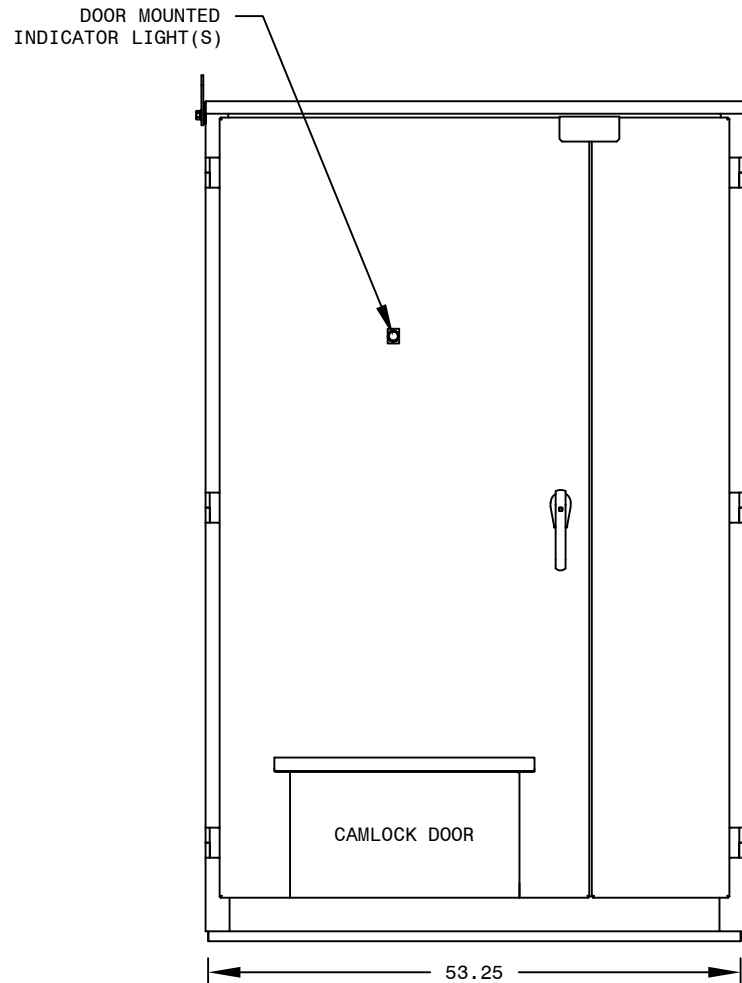
DWG NUMBER: QC30204-M001

**LAKE SHORE ELECTRIC LLC**  
 BEDFORD, OHIO U.S.A.

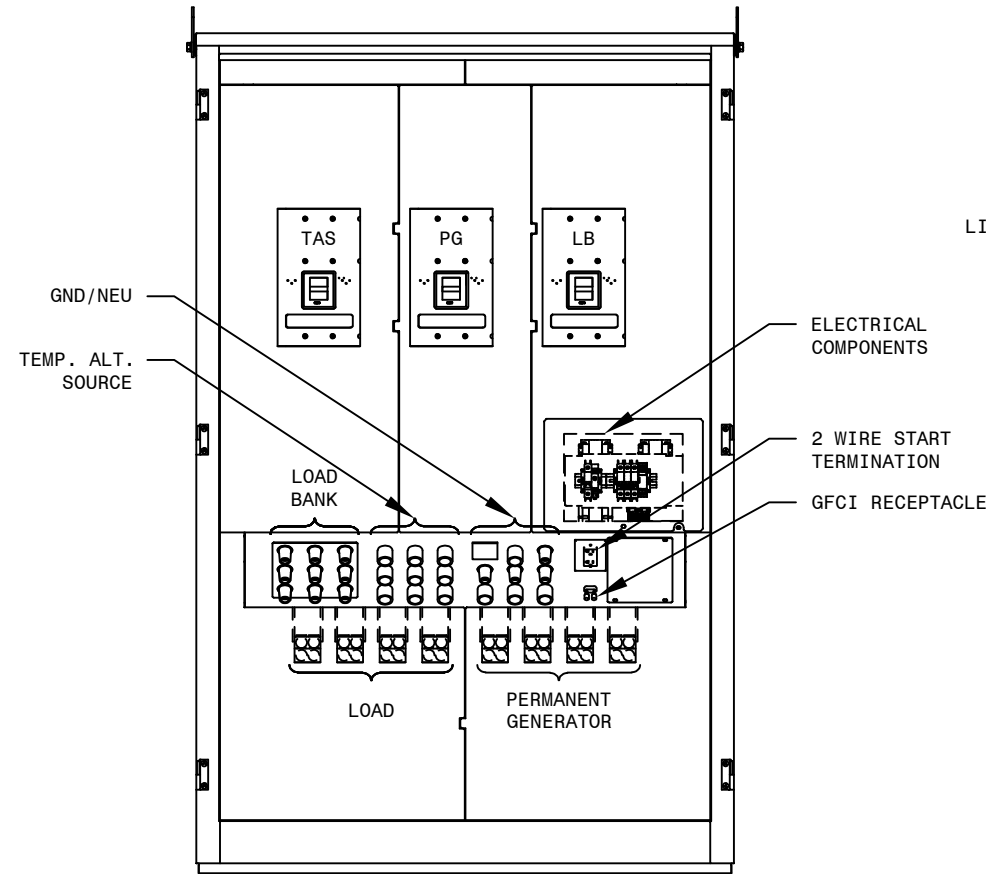
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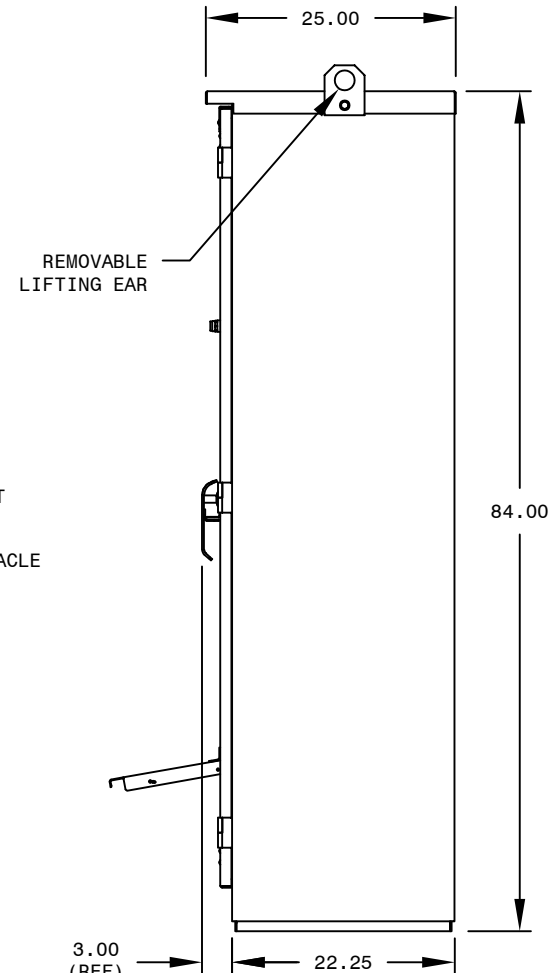
PG 1 OF 1



FRONT ELEVATION



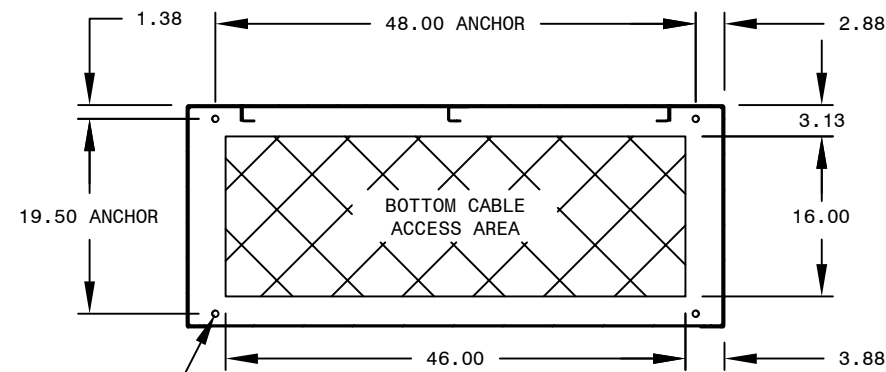
FRONT ELEVATION  
DOORS REMOVED



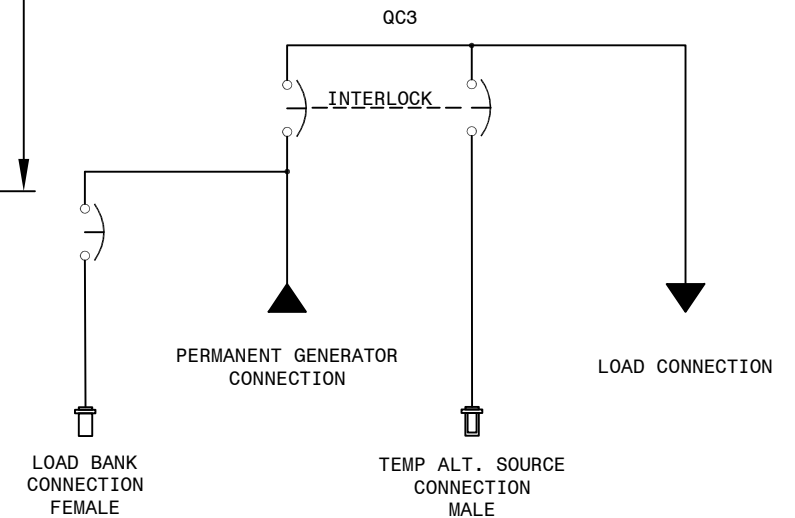
SIDE ELEVATION

OUTLINE NOTES:

- 1) ENCLOSURE CONSTRUCTION: NEMA 3R
- 2) FREESTANDING
- 3) CABLE ENTRY LOCATION: BOTTOM
- 4) DOOR INFORMATION  
 MAIN DOOR: LEFT HINGED, PADLOCKABLE, WITH 3-POINT LATCHING  
 CAMLOCK DOOR: TOP HINGED
- 5) DEADFRONTED
- 6) CAMLOCKS  
 A) COLOR AND ARRANGEMENT PER NATIONAL ELECTRIC CODE (NEC)  
 B) MANUFACTURER AND SERIES: CROUSE HINDS "J" SERIES E1016, 400A RATING, ALL AMPACITIES, OR EQUIVALENT
- 7) ALL DIMENSIONS EXPRESSED IN INCHES
- 8) ESTIMATED WEIGHT: 1300 LBS



PLAN VIEW  
FRONT



CABLE TERMINATIONS FOR LOAD AND PERMANENT GENERATOR

| AMPERAGE   | TYPE        | PHASE/NEU      | GROUND        |
|------------|-------------|----------------|---------------|
| 800A-1200A | PERMA. GEN. | (4) 300-750MCM | (1) #6-250MCM |
|            | LOAD        | (4) 300-750MCM | (1) #6-250MCM |

TITLE: QUICK CONNECT WITH 3 BREAKER  
QC3 800A-1200A

DWG NUMBER  
QC30812-M001



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| REV | DESCRIPTION              | BY  | APV | DATE     |
|-----|--------------------------|-----|-----|----------|
| -   | ORIGINAL ISSUE           | DGW | -   | 03/03/22 |
| A   | UPDATED ENCL (RENAMED)   | DGW | -   | 10/28/22 |
| B   | REARRANGED BREAKER ORDER | DGW | -   | 09/12/23 |
| -   | -                        | -   | -   | -        |
| -   | -                        | -   | -   | -        |
| -   | -                        | -   | -   | -        |
| -   | -                        | -   | -   | -        |

