

KEYED NOTES:

- 1** INSTALL NEW CURRENT TRANSFORMERS AND VOLTAGE TAPS FOR REVERSE POWER RELAY.
- 2** UTILITY SWITCH: PROVIDE VISIBLE MEANS OF DISCONNECT TO SATISFY UTILITY REQUIREMENTS. SWITCH SHALL BE HEAVY DUTY AND MINIMUM OF TWO AUXILIARY CONTACTS FOR EACH POSITION. UTILITY WILL ASSIGN SWITCH NUMBER AND WILL INSTALL POWER COMPANY LOCK.
- 3** TAP EXISTING HORIZONTAL BUS TO NEW STRUCTURE PROVIDE MIN OF 2-1/4"x4" PLATES.
- 4** ALL NEW LOADS ARE PARASITIC TO THE COGEN UNIT.
- 5** NEW NET METER SECTION BUILT TO UTILITY STANDARDS

GENERAL NOTES:

CONFIGURATION:
TWO INDIVIDUALLY PROTECTED COGEN UNITS WITH BECKWITH M3520 INTERTIE RELAYS.

INTERCONNECTION TO UTILITY VIA UTILITY OPERATED VISIBLE DISCONNECTING SAFETY SWITCH AND CIRCUIT BREAKER ACTING AS THE POINT OF COMMON COUPLING.

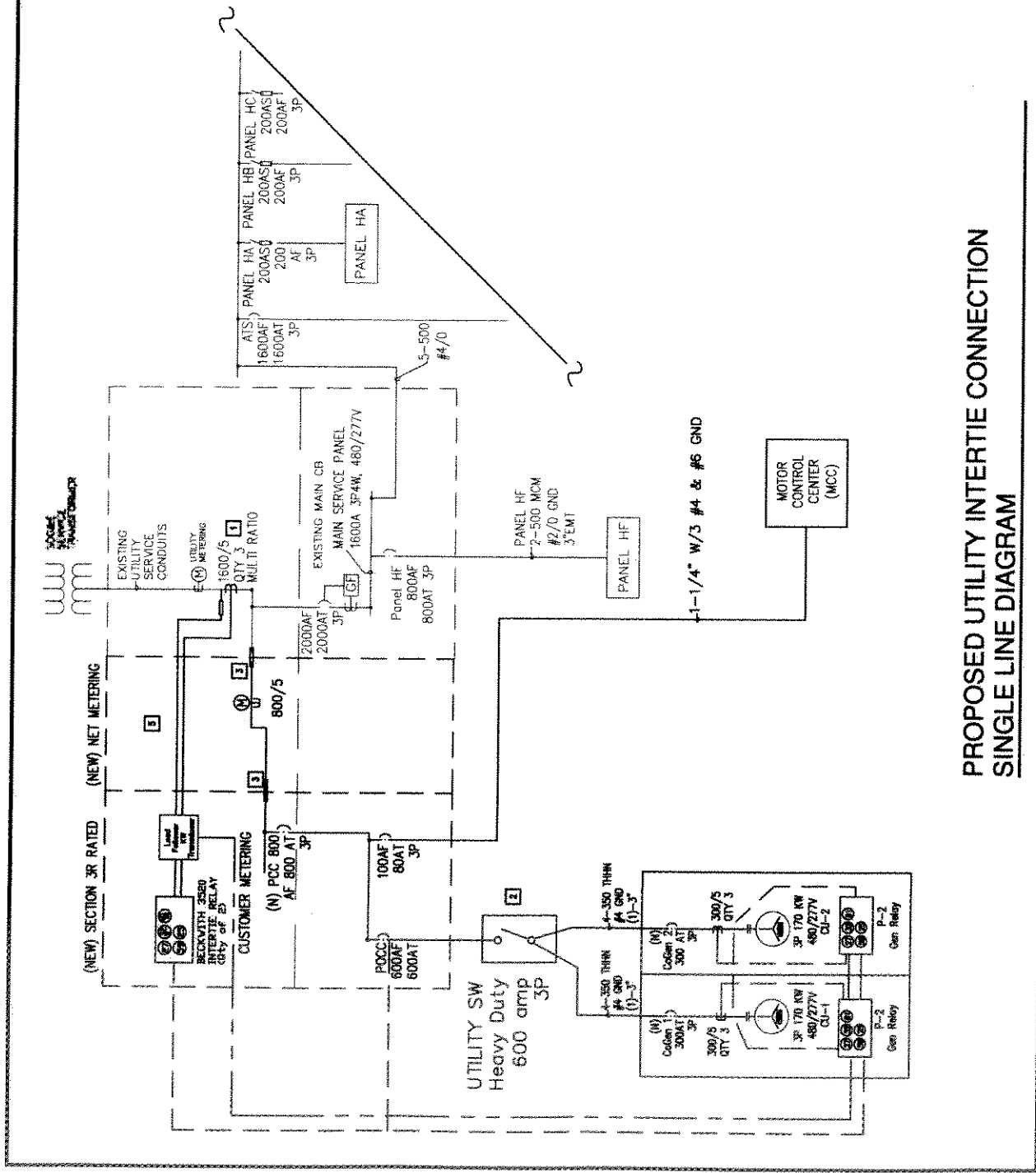
BOLD LINES INDICATE NEW WORK, LIGHT LINES INDICATE EXISTING.

ONLY THE WIRE SIZES THAT HAVE BEEN FIELD VERIFIED ARE SHOWN.

THIS SINGLE LINE IS A PARTIAL REPRESENTATION PRESENTED TO ILLUSTRATE THE PORTION OF THE SYSTEM AFFECTED BY THE PROPOSED NEW WORK.



DATE SHOWN:



**PROPOSED UTILITY INTERTIE CONNECTION
SINGLE LINE DIAGRAM**

SEQUENCE OF OPERATION:

THIS SEQUENCE IS FOR MANUAL OPERATION ONLY. THE CONSTRUCTION PACKAGE IS PARALLELED WITH THE EXISTING MAIN SWITCHBOARD (MSB) FROM THE CONSTRUCTION PACKAGE. THE POWER TRANSFORMER (PT) WILL BE INSTALLED IN THE EXISTING MAIN SWITCHBOARD (MSB) FROM THE CONSTRUCTION PACKAGE. THE CONSTRUCTION PACKAGE 2 SWITCHER WILL BE INSTALLED IN THE EXISTING MAIN SWITCHBOARD (MSB) FROM THE CONSTRUCTION PACKAGE. THE CONSTRUCTION PACKAGE 2 SWITCHER WILL BE INSTALLED IN THE EXISTING MAIN SWITCHBOARD (MSB) FROM THE CONSTRUCTION PACKAGE. ON LOSS OF UTILITY POWER OR DETECTION OF A GRID FAULT (G.F.), SET AT 0.40A, THE UTILITY POWER WILL BE DETECTED BY THE CONSTRUCTION PACKAGE 2 SWITCHER. THE CONSTRUCTION PACKAGE 2 SWITCHER WILL BE INSTALLED IN THE EXISTING MAIN SWITCHBOARD (MSB) FROM THE CONSTRUCTION PACKAGE. ON LOSS OF UTILITY POWER, THE UTILITY RELAYS WILL RELAY (TR) TO THE CONSTRUCTION PACKAGE 2 SWITCHER FOR 40 SECONDS.

LEGEND

- 27 OVERVOLTAGE CLASPER
- 27 UNDER VOLTAGE RELAY FUNCTION
- 32a DIRECTIONAL POWER RELAY FUNCTION (UNDERPOWER)
- 45 RELATIVE PHASE SEQUENCE CURRENT RELAY FUNCTION
- 45 PHASE SEQUENCE VOLTAGE RELAY FUNCTION
- 52 CIRCUIT BREAKER
- 58 UNDER VOLTAGE RELAY FUNCTION
- 58 SLOW FUSE DETECTION
- 58 SLOW FUSE DETECTION
- 81A/O UNDERPOWER FREQUENCY RELAY FUNCTION
- CT CURRENT TRANSFORMER
- HWK POWER (HW) TRANSFORMER
- M-3410 M-3410
- MSB MAIN SWITCHBOARD
- (N) EXISTING WORK
- (C) CABLE/CONDUIT NUMBER
- SP1, SP2 CT SENSING BLOCK
- FB FUSE BLOCK & FUSES

NOTE:

1. SEE WORK FOR CONSTRUCTION PROJECT IS SHOWN IN FIELD.
2. THE MSB TRANSFORMER AND UTILITY RELAYS (TR) WILL BE INSTALLED IN THE EXISTING MAIN SWITCHBOARD (MSB) FROM THE CONSTRUCTION PACKAGE.
3. SQUARE OF A LOCAL PROFESSIONAL.
4. INSTALL 3 FUSES AND ASSOCIATED FUSE BLOCK FOR VOLTAGE UNDER VOLTAGE RELAY FUNCTION AND INTRINSIC RELAYS.
5. INSTALL BLOCKS AND ASSOCIATED CIRCUITRY AS NECESSARY.
6. CONSTRUCTION SHALL INSTALL NEW BUS AND CABLES AS SHOWN IN THIS DRAWING WITH THE EXISTING WORK.
7. CONSTRUCTION SHALL PROVIDE AND INSTALLATION BOARD TO FEED EXISTING WORK.
8. CONSTRUCTION PACKAGE CONTROLLER SHALL TRIP OPEN DISCONNECT SWITCH UPON UNDER VOLTAGE DETECTION.
9. EQUIPMENT IDENTIFIED BY AN APOSTROPHE (') TO BE SUPPLIED BY OTHER CONTRACTOR.
10. FUSED DISCONNECTS (FD) SHALL BE CLASS 5 FUSES WITH 100 AMPERES (100A) AND 1500 VOLT (1500V) RATED. THE FUSED DISCONNECTS SHALL BE INSTALLED IN THE EXISTING MAIN SWITCHBOARD (MSB) FROM THE CONSTRUCTION PACKAGE.
11. ALL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE CONSTRUCTION PACKAGE 2 SWITCHER (MSB) FROM THE CONSTRUCTION PACKAGE.

M-3410 INTRINSIC RELAY SETTINGS:

1. UNDER (U) AND OVER (O) VOLTAGE SETTINGS:

VOLTAGE	MAXIMUM
UNDER VOLTAGE	10
OVER VOLTAGE	10
UNDER VOLTAGE	10
OVER VOLTAGE	10
UNDER VOLTAGE	10
OVER VOLTAGE	10

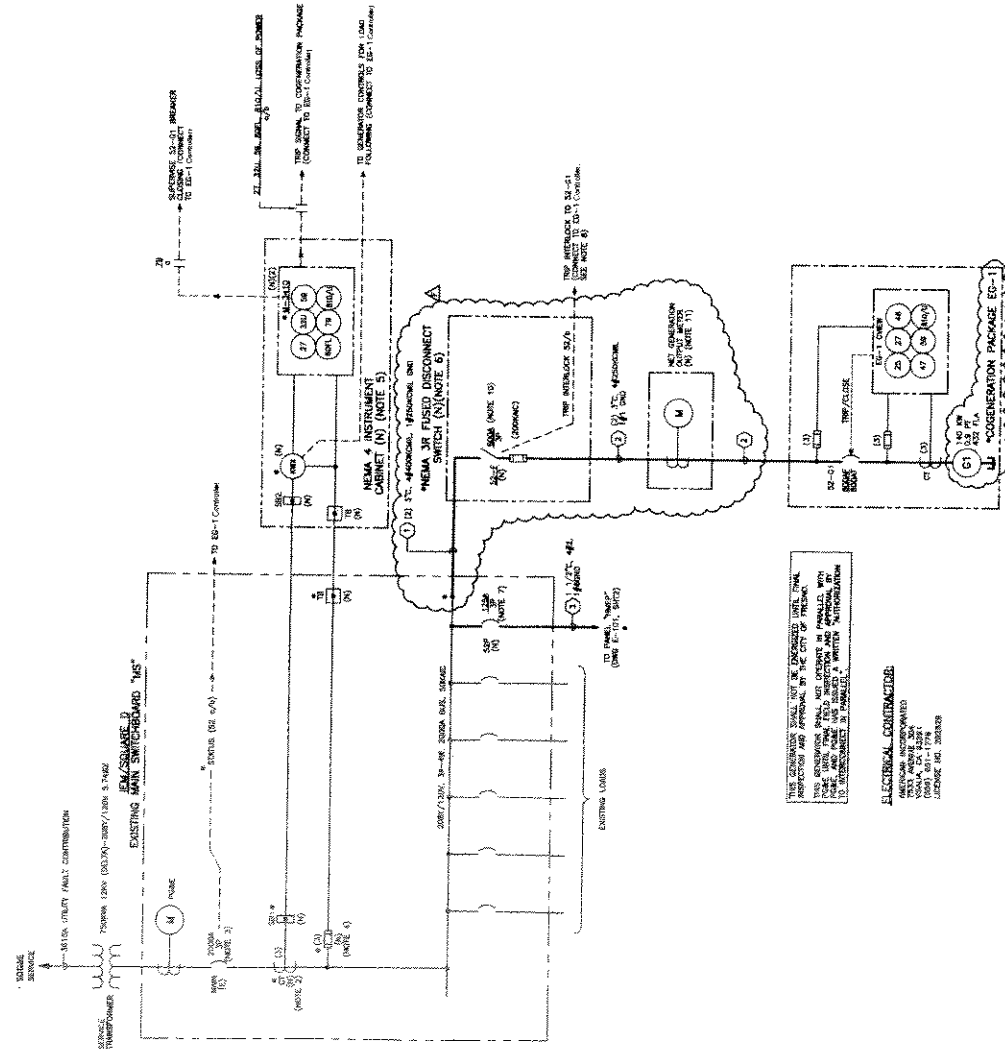
2. FREQUENCY (FR) SETTINGS:

FREQUENCY (Hz)	MAXIMUM
80.5	10
98.5	10
137.5	10

3. DIRECTIONAL POWER (DP) SETTINGS: UNDERPOWER FREQUENCY RELAY FUNCTION SHALL BE INSTALLED WITH MAXIMUM DELAY OF 2 SECONDS.

UNDERPOWER FREQUENCY RELAY FUNCTION	MAXIMUM
UNDERPOWER FREQUENCY RELAY FUNCTION	10
UNDERPOWER FREQUENCY RELAY FUNCTION	10
UNDERPOWER FREQUENCY RELAY FUNCTION	10

4. FUSE LOSS (FL) DETECTION SETTINGS: SET AT 10 CIRCUITS (10A) DETECTION. SET AT 40 SECONDS (40S) DETECTION.



THIS DRAWING SHALL BE USED FOR CONSTRUCTION ONLY. THIS DRAWING SHALL NOT BE USED FOR OPERATION AND MAINTENANCE. THE CONSTRUCTION PACKAGE 2 SWITCHER WILL BE INSTALLED IN THE EXISTING MAIN SWITCHBOARD (MSB) FROM THE CONSTRUCTION PACKAGE.

ELECTRICAL CONTRACTOR:
 1000 AVENUE 50
 DALLAS, TEXAS 75201
 (214) 631-1774
 LICENSE NO. 20000



REVISIONS	DATE	BY	APP'D
A	02-17-02	...	...
B	02-17-02	...	...
C	02-17-02	...	...
D	02-17-02	...	...
E	02-17-02	...	...
F	02-17-02	...	...

140 MW GENERATION SYSTEM

DATE: 02-17-02

PROJECT: 140 MW GENERATION SYSTEM

SCALE: AS SHOWN

APP'D: [Signature]

DATE: 02-17-02

PROJECT: 140 MW GENERATION SYSTEM

SCALE: AS SHOWN

APP'D: [Signature]

DATE: 02-17-02

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