

NGS N03 – INVERTER AND BATTERY CHARGERS REPLACEMENT

PREPARED BY: Jose Dominguez

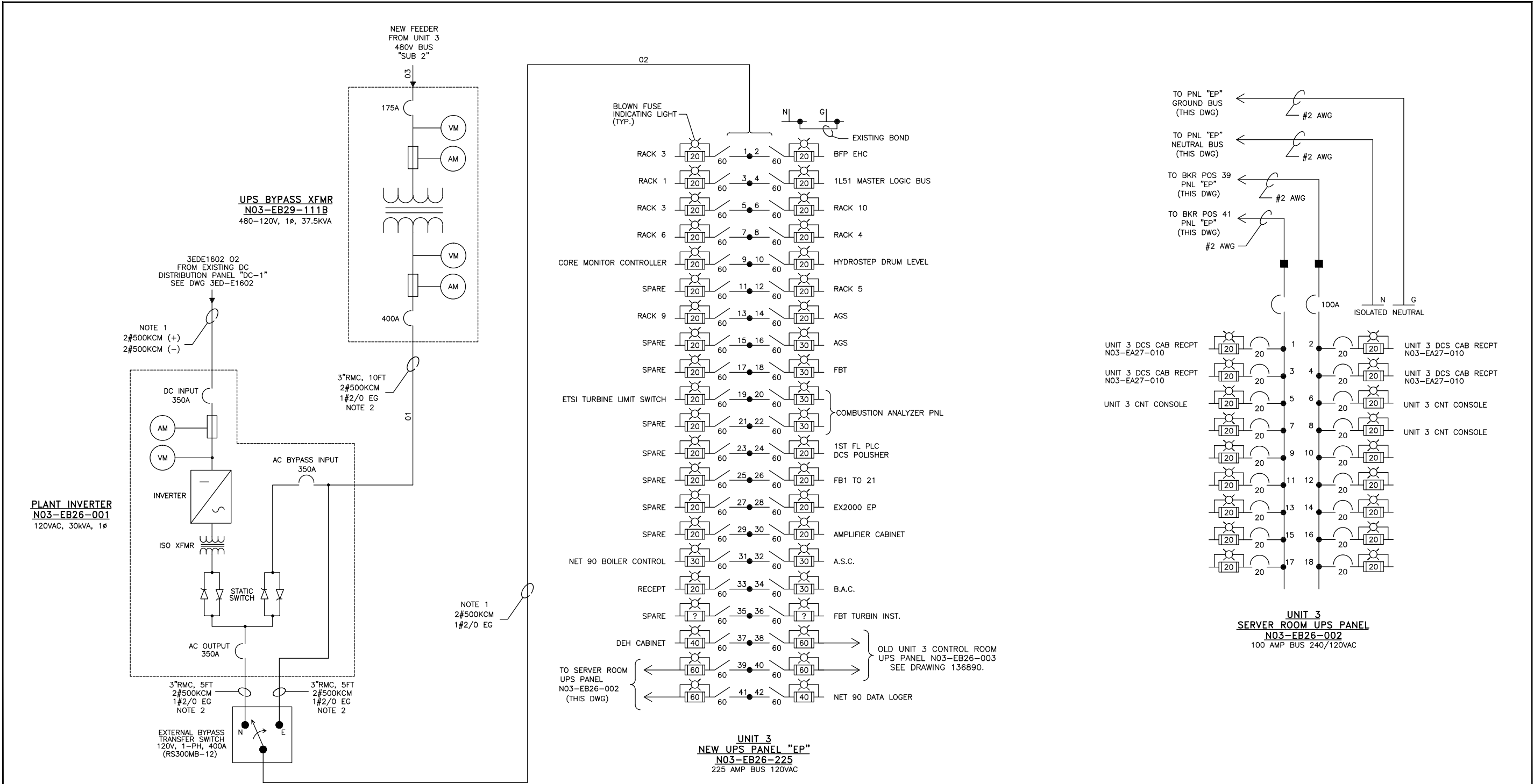
DATE: 04/12/2019

1.0 ADDITIONAL ELECTRICAL WORK (INVERTER)

1. Electrical contractor shall run an additional 15FT of 3" RMC conduit with #500KCM conductors and #2/0 equipment groundings as shown in Note 2 of the electrical drawings.
2. Electrical contractor shall provide all mounting hardware for the external bypass switch.
3. Electrical contractor shall make all existing field wiring terminations on the new equipment.
4. All installation shall be done in accordance with manufacturer recommendation and electrical code.

1.1 ADDITIONAL ELECTRICAL WORK (CHARGERS)

1. Electrical contractor shall pull out existing 4C#2/0AWG and 4C#4/0AWG conductors from the existing cable tray feeding the chargers. Re-label existing switchgear breakers as spare.
2. Electrical contractor shall run new cables from MCC 3-8 as shown in the drawings. Reuse existing cable tray. Contractor shall reorganize the existing cables on the cable tray to meet article 392 of the NEC.
3. Electrical contractor shall furnish and install two (2) feeder buckets for an EATON Freedom series MCC. Breakers shall be HKD type. See drawings for sizes. Provide labels for the bucket (N03 EBOP BATTERY CHARGER and N03 PLANT BATTERY CHARGER).
4. Electrical contractor shall furnish and install two (2) transfer switches as shown in the drawings.
5. Electrical contractor shall run an additional 30FT of 3" RMC conduit and cables as shown in the drawings.
6. Electrical contractor shall furnish and install two (2) input line reactors as shown in the drawings.
7. Electrical contractor shall make all existing field wiring terminations on the new equipment.
8. All installation shall be done in accordance with manufacturer recommendation and electrical code.



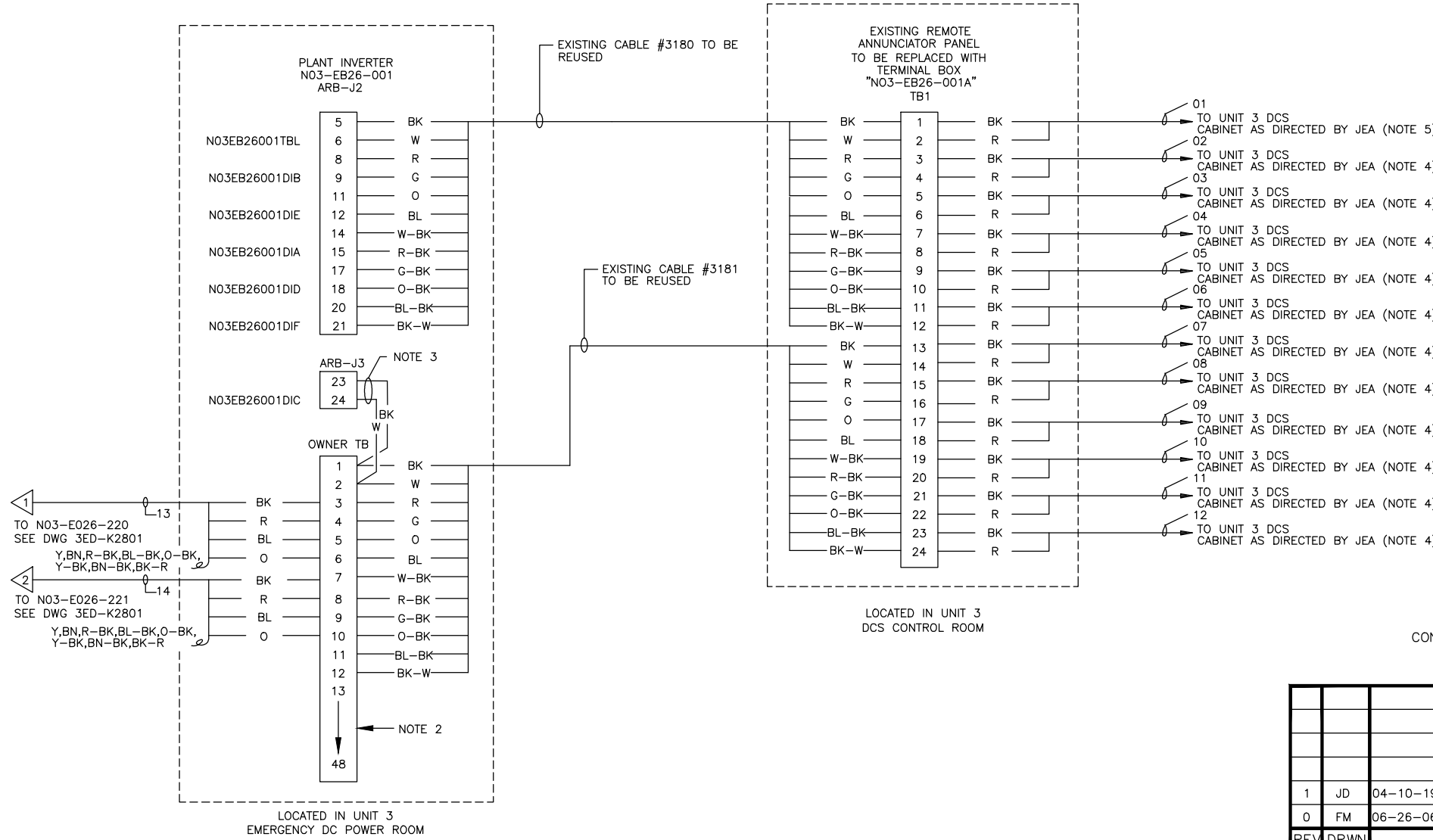
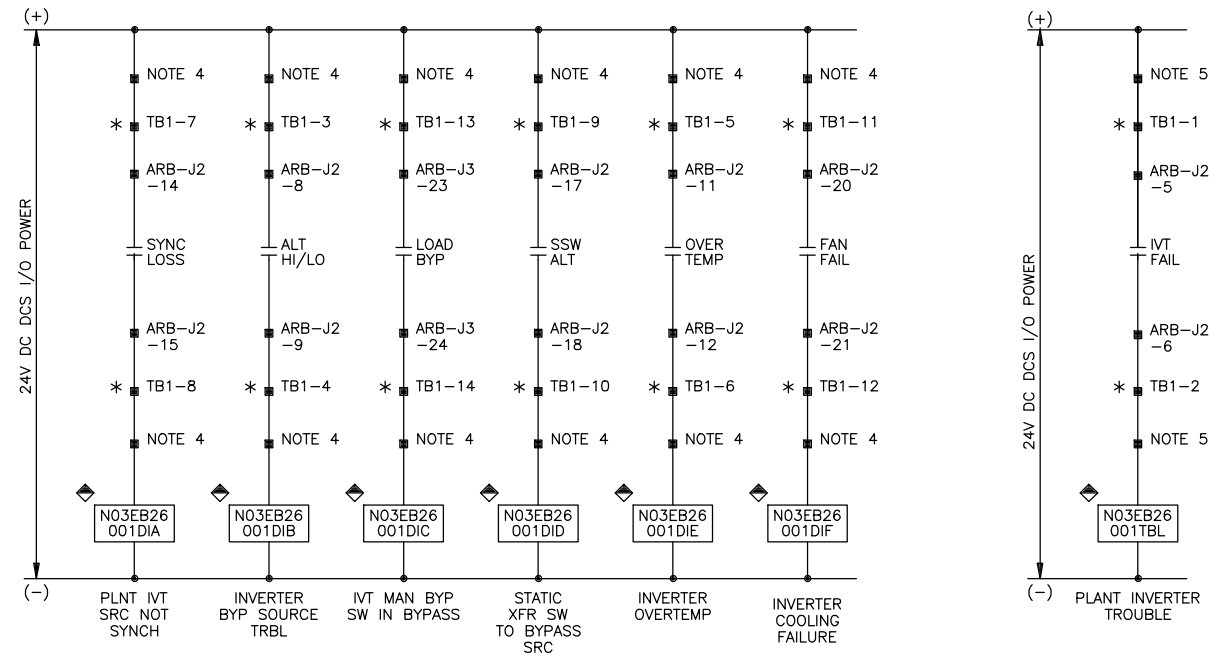
NOTES:

1. REROUTE AND REUSE EXISTING CABLES
2. RUN NEW CABLES & CONDUITS TO MATCH EXISTING INSTALLATION & RATING
3.
4.
5.

NOTES:

CONTROL NUMBER: 136510

LEGEND:					
AM - AMMETER VM - VOLT METER FM - FREQUENCY METER					
JEA PLANT SCHEMATIC					
GEMS No. N03-EB TITLE: ONE LINE DIAGRAM UNIT 3 120V AC CONTINUOUS POWER					
GROUP: ELECTRICAL SYSTEM: PLANT LIGHTING AND DISTRIBUTION					
REV		DRWN	DATE	DESCRIPTION	APPR
No.		BY			BY
3	JD	04-10-19	INVERTER REPLACEMENT	JD	
2	FM	05-24-10	UPDATED LOADS, ADDED PANEL	RKB	
1	FM	11-04-08	REVISED PER PW0#11682771	ECSA	
0	FM	06-26-06	NEW DRAWING	ECSA	
JEA DWG. No.		E37EB1611S		SHEET 1 OF 1	



- NOTES
1.

ALL DEVICES SHOWN ARE LOCATED ON PLANT INVERTER N03-EB26-001, EXCEPT AS NOTED.
2.

PROVIDE 48 POINT TERMINAL STRIP FOR OWNERS USE.
3.

CONTRACTOR TO PROVIDE JUMPERS TO TERMINAL STRIP.
4.

NOT LANDED AS OF 5/25/06.
5.

CHECKED SIGNAL IS LANDED ON 4/10/19
- *

LOCATED IN TERMINAL BOX "N03-EB26-001A" LOCATED IN UNIT 3 CONTROL ROOM.
- ◆

LOCATED ON UNIT 3 DCS CABINET
- ALT HI/LO

INVERTER STATIC SW ALTERNATE SOURCE CONTACT. CONTACT CLOSES ON ALTERNATE SOURCE +/- 10% OF RATED VOLTAGE.
- FAN FAIL

INVERTER FAN FAILURE CONTACT. CONTACT CLOSES ON FAN FAILURE.
- IVT FAIL

INVERTER FAILURE CONTACT. CONTACT CLOSES ON INVERTER FAILURE.
- LOAD BYP

INVERTER MANUALLY BYPASSED CONTACT. CONTACT CLOSES ON INVERTER BYPASSED.
- OVER TEMP

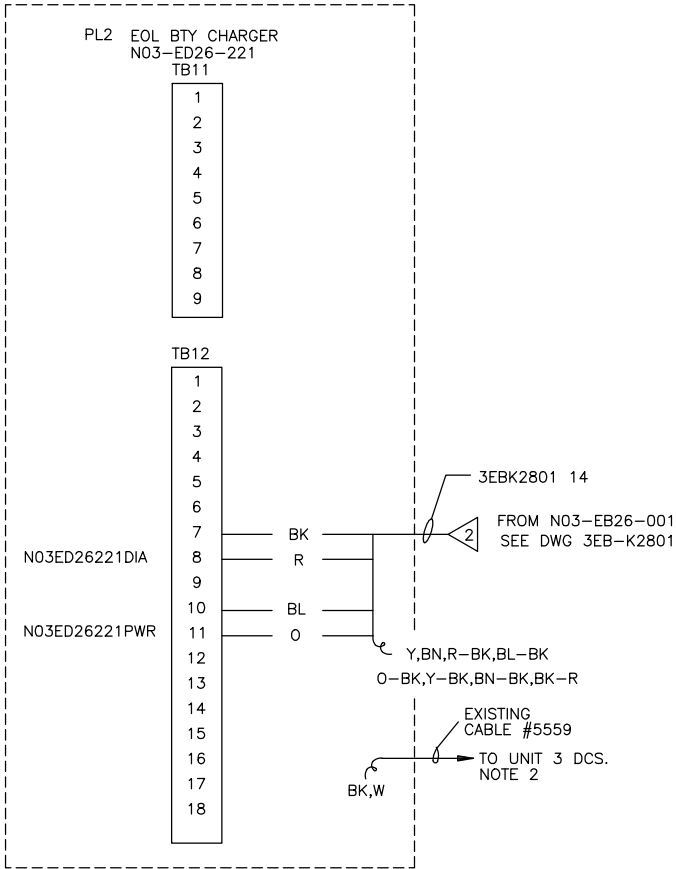
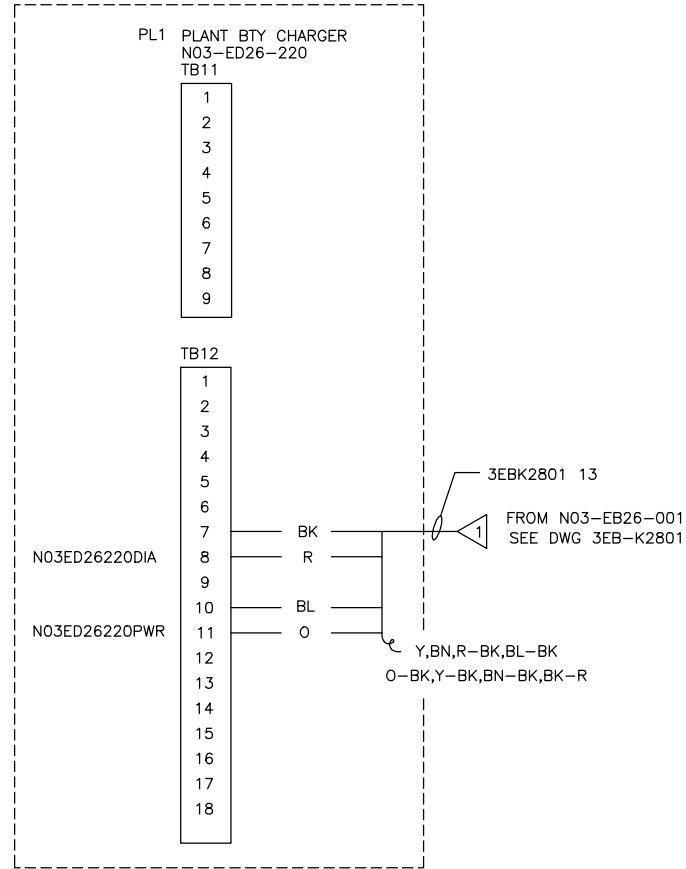
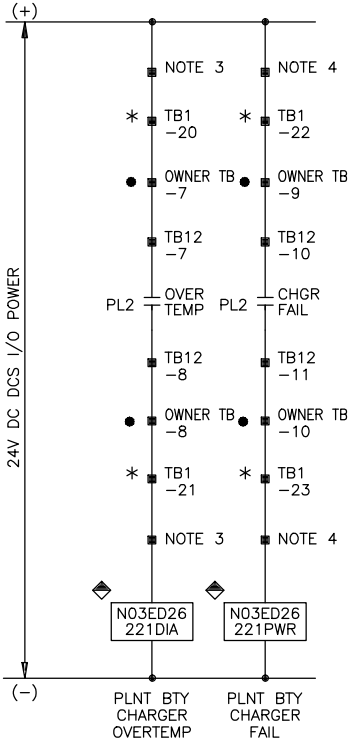
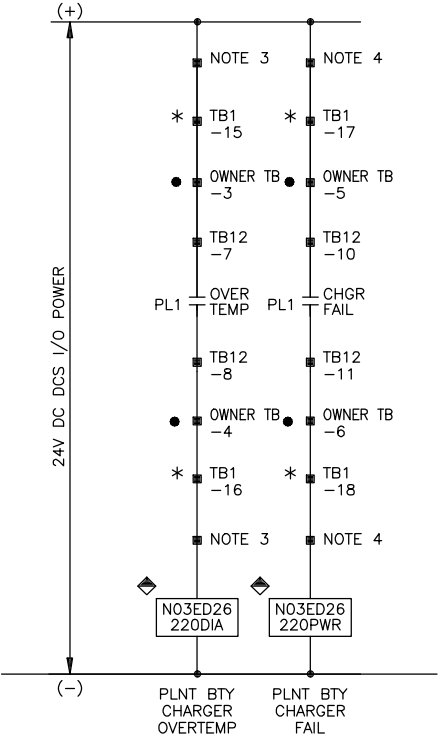
INVERTER OVERTEMP CONTACT. CONTACT CLOSES ON INVERTER OVERTEMPERATURE.
- SSW ALT

INVERTER STATIC SWITCH ON ALTERNATE SOURCE. CONTACT CLOSES ON STATIC SWITCH ON ALTERNATE SOURCE.
- SYNC LOSS

PLANT INVERTER SOURCE NOT IN SYNCH w/ALTERNATE SOURCE. CONTACT CLOSES WHEN INVERTER SOURCE OUT OF SYNCH w/ALTERNATE SOURCE.

CONTROL NUMBER: 136511

JEA PLANT SCHEMATIC				
GEMS No. N03-EB				
TITLE: PLANT LIGHTING & DISTRIBUTION INVERTER/STATIC BYPASS SWITCH				
GROUP: ELECTRICAL				
SYSTEM: PLANT LIGHTING AND DISTRIBUTION				
JEA DWG. No.		SHEET 1 OF 1		
E37EB2801S				
REV	DRWN	DATE	DESCRIPTION	APPR
No.	BY			BY
1	JD	04-10-19	ADDED NOTE 5	JD
0	FM	06-26-06	NEW DRAWING	ECSA



CONTROL NUMBER: 136513

- NOTES
- ALL DEVICES SHOWN ARE LOCATED ON UNIT 3 BATTERY CHARGER N03-ED26-220 AND EMERGENCY OIL LUBE CHARGER N03-ED26-221, AS NOTED.
 - EXISTING CABLE #5559 IS TO STAY CONNECTED AT UNIT 3 DCS END. CONTRACTOR SHALL DISCONNECT THIS CABLE AT THE BATTERY CHARGER AND MARK IT AS SPARE AND COIL CABLE IN NEW BATTERY CHARGER.
 - NOT LANDED AS OF 5/25/06.
 - CHECKED SIGNAL IS LANDED ON 4/11/19

- LEGEND
- PL1 LOCATED ON PLANT BTY CHARGER N03-ED26-220
- PL2 LOCATED ON EMERGENCY OIL LUBE BTY CHARGER N03-ED26-221
- CHGR BATTERY CHARGER FAIL CONTACT. CONTACT CLOSES FAIL ON BATTERY CHARGER FAILURE.
- OVER BATTERY CHARGER OVERTEMPERATURE CONTACT. TEMP CONTACT CLOSES ON BATTERY CHARGER OVER-TEMPERATURE.
- ◆ LOCATED IN UNIT 3 DCS CABINET
- INTERMEDIATE TERMINAL POINT LOCATED IN PLANT INVERTER N03-EB26-001 "OWNER TB". SEE DWG 141420-3EB-K2801
- * LOCATED IN TERMINAL BOX "N03-EB26-001A" IN UNIT 3 CONTROL ROOM. SEE DWG 141420-3EB-K2801

JEA PLANT SCHEMATIC				
GEMS No. N03-ED				
TITLE: ELECTRICAL 120-250V DC SCHEMATIC DC BATTERIES & CHARGERS				
GROUP: ELECTRICAL SYSTEM: 120-250V DC				
REV	DRWN	DATE	DESCRIPTION	APPR
No.	BY			BY
0	FM	06-26-06	NEW DRAWING	ECSA
JEA DWG. No.			SHEET 1 OF 1	
E37ED2801S				