

The following is to be read and form part of the contract documents for the above project.

RESPONSES TO QUESTIONS DURING TENDERING

1) Package 1

New switchgear 5SSSNE shown on E7-01-04 – is this part of the cash allowance?

E7-01-03 – is the 5kV fusible switch and metering included in the cash allowance?

Response: 5SSSNE is not part of the case allowance. 5kV fusible switch is the cash allowance.

2) Package 2

Where are these MCCs fed from?

- 6MCCC13-E1
- 6MCCC13-E2
- 6MCCB1-E1

MCCs on drawing E3-02-02 do not appear in the Distribution Schedule E6-02-02

Response: 6MCCC13-E1 is fed from LCC13-EA by 70AT to 'Air Comp.'

6MCCC13-E2 is fed from LCC13-EA by 150A3P to 'To Boiler Room MCC'.

6MCCB1-E1 is fed from 6DPB1-E1 as shown on E7-02-05.

MCCs on E3-02-02 are shown on right hand side of E6-02-02.

3) Package 4

Which manufacturer's existing CDPs are the new MCCs being fed from?

Whose switchgear is existing?

Require existing shop order drawings, photos for:

- 6DPU6-E1
- 6DPU6-N1
- 2DPU6-E1
- 2DPU6-N1

All panelboards listed on E7-04-05 – all breakers are to be replaced in the existing panelboards. Whose manufacturer's panels are existing? Pictures and engineering details are required in supplying the correct breakers.

Drawing E7-04-01 is the 5kV fusible switch upgrade included in the cash allowance?

Response: Unit 6 MCCs are being fed from ITE CDPs.

Existing switchgear in Unit 6 is ITE, Unit 7 is Square D.

Will provide pictures of Unit 6 CDPs as requested.

Existing panelboards are ITE, Federal Pioneer, and Square D. Panel information as follows (quantities to be confirmed on site):

- EA – ITE, 84 cct, 50 x 15A1P, 2x20A1P, 5x15A2P, 1x20A2P, 2x40A1P, 5x20A3P
- EB – ITE, 84cct, 40x15A1P, 8x20A1P, 2x30A1P
- EC – ITE, 30cct, 28x15A1P, 1x30A2P
- EG – ITE, 42cct, 37x15A1P, 1x15A2P
- ED – ITE, 30cct, 7x15A1P, 1x30A2P
- EH (Tower) – ITE, 20cct, 4x15A1P
- EH (Elec Rm) – ITE, 42cct, 34x15A1P, 5x20A1P, 1x40A1P
- EF – ITE, 20cct, 13x15A1P, 1x30A2P, 1x30A3P
- EK – Federal Pioneer, 42cct, 15x15A1P, 2x15A3P
- NA – Square D, 42cct, 34x15A1P, 2x20A1P, 1x30A1P
- NB – Square D, 42 cct, 35x15A1P, 2x20A1P, 1x30A1P

- NC – Square D, 42cct, 31x15A1P, 1x15A2P, 3x20A1P, 1x30A1P
- ND – Square D, 42cct, 32x15A1P, 4x20A1P, 1x30A1P
- NE – Square D, 42cct, 31x15A1P, 3x20A1P, 1x30A2P
- NF – ITE, 42 cct, 38x15A1P, 1x20A1P, 1x30A1P
- NG – ITE, 42cct, 28x15A1P, 7x20A1P, 2x20A2P
- NJ – ITE, 30cct, 3x15A1P, 8x20A2P, 2x15A2P, 1x30A3P
- NK – Federal Pioneer, 42cct, 20x15A1P, 2x15A2P, 1x70A3P

5kV switch part of the cash allowance. Work to be completed in WP01.

4) Package 5

Drawing E7-05-01: is the 5kV fusible switch upgrade included in the cash allowance?
New switchgear 5SSSE – is this part of the cash allowance?

Response: See response 1.

- 5) Which panelboards are to be surface mounted? Which are to be flush mounted?

Response: Panelboards in service spaces to be surface mounted, panels outside of services spaces to be flush mounted.

- 6) Fault levels for 600V CDPs

Response: 40kA Minimum

- 7) Fault levels for 208V CDPs

Response: 22kA Minimum

- 8) Fault levels for MCCs

Response: 40kA Minimum

- 9) Panel identification for all panels that feed cells/rooms/etc. which GF/AF breakers are required.

Response: Panels in B-1, B-3, B-4, B-5, B-12, B-13, B-14, C-5. To be verified on site.

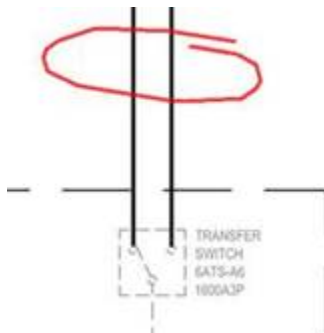
- 10) Retrofit Panelboards – we are unable to quote retrofit panelboards unless we receive the following information:

- Dimensions (height, width, depth) of existing panelboard
- Listing of breakers to be installed in the retrofit
- Picture with cover off
- Picture of interior
- Ideally, a video of the existing panelboard

Retrofit panelboards are a fully engineered solution and we cannot take a shortcut in quoting them. If this information cannot be provided, is it acceptable for us to quote panelboards?

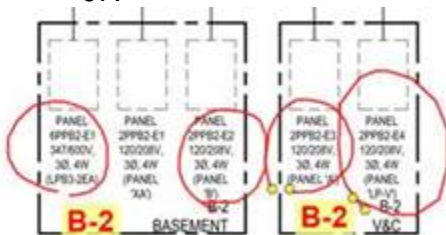
Response: Information not readily available. Quoting panelboards is acceptable.

1. REFER TO DRAWING E7-01-04: What size of cables are to be pulled from existing transfer switch '6ATS-A6' located on A-6 Pumphouse?



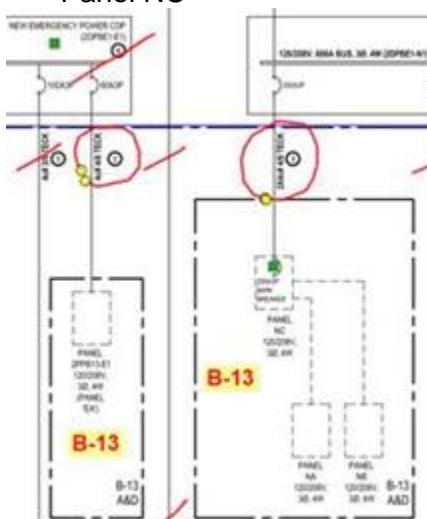
Response: Conductors not in contract, to be completed by others in separate work.

2. Please confirm the location of the following encircled panels shown on drawing E7-02-07.



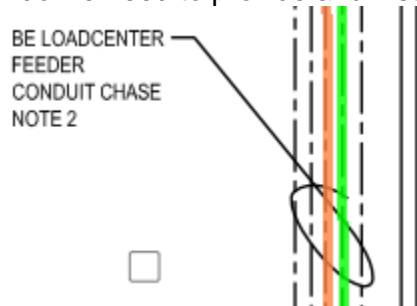
Response: 1. PANEL 6PPB2-E1(LP3-2EA) SPECIFIED IN DWG. E6-02-01 "CONTRACTOR TO COORDINATE WITH OWNER TO VERIFY LOCATION ON SITE".
 2. PANEL 2PPB2-E2(PANEL B) TO ISSUE AN ADDENDUM IN DWG. E6-02- 01 "CONTRACTOR TO COORDINATE WITH OWNER TO VERIFY LOCATION ON SITE"
 3. PANEL 2PPB2-E3(PANEL A) REFER TO DWG. E2-02-02 DETAIL 2. TO ISSUE ADDENDUM PANEL NAME 2PPB2-E3 IN LIEU OF 2PPB2-E2
 4. PANEL 2PPB2-E4(LP-V) REFER TO DWG E2-02-02 DETAIL 2

3. Please confirm routing of the encircled cables for these two panels – '2PPB13-E1' and 'Panel NC'



Response: From BE-1 to B12 via duct bank, B-12 to B-13 through tunnel and B-2.

4. Please clarify what Note 2 is as shown on E2-02-04, Detail 1? Is there an existing chase or do we need to provide and install a cable tray?



Response: No existing chase. Provide and install cable tray or conduit suspended from structure to suit installation.

5. The location of the this duct bank on drawing E1-05-01 doesn't coincide with the location on drawing E1-02-01. Please clarify.
Are we going to use a pull pit or a manhole? Please clarify.



Response: Install manhole (per WP02) in location identified in WP04.

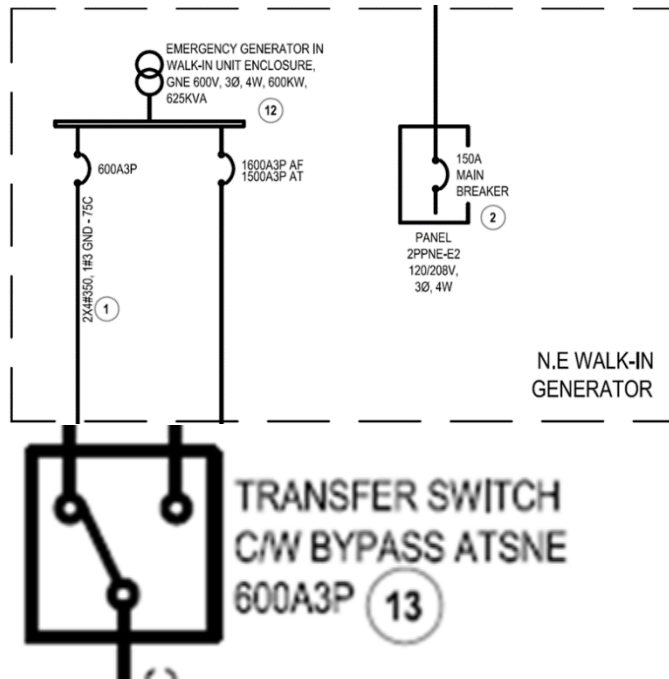
- 1) What the existing panels make/model/sizes are that we are supposed to retrofit as well as what new breakers are required in them, and we also don't seem to have panel schedules for any of the new panels required.

Response: See response provided in addendum 1.

- 2) There is a spec for both Nat gas and Diesel unit. Which one's required?

Response: Diesel generator.

- 3) This section shows a 600kW or 625kVA unit – which one is it? Can't be both. 625kVA is a 500kW unit. There is also a 1600A breaker on the genset. At 600V, a 600kW genset will not produce more than 721A. The need for a 1600A breaker needs to be clarified.



Response: WP01 requires a 500kW/625kVA generator. 1600A breaker is for the fire pump (NIC) in Pump house A-6.

1. '6MCCC13-E1' and '6MCCC13-E2' are not shown in the SLD and schedule, it only shows on drawing E2-03-03 as NEW. Please clarify.

Response: Both MCCs are in the boiler room of C-13 south of generator room. Both are located on the east wall approximately 10m from the generator room.

2. '6DPF12-1' – this distribution panel was shown on two location, in F-12 Building, one on Main Floor and one on Second Floor. Please clarify.
Response: Panel to be located on first floor.
3. Please confirm location of these new panels. We need to run new feeders as shown on the single line on drawing E7-02-06.
'LPB-VB-1'

Response: REFER TO DWG. NO. E2-02-06 FOR THE LOCATION. EXISTING CONDUCTOR AS PER DWG NO. E7-02-06. NO NEW CONDUCTORS REQUIRED.

'2PPB4-E5'

Response: REFER TO DWG. NO. E6-02-01. AS SPECIFIED ON NOTES' CONTRACTOR TO COORDINATE WITH OWNER TO VERIFY LOCATION ON SITE'

'2PPB4-E6'

Response: REFER TO DWG. NO. E6-02-01. AS SPECIFIED ON NOTES' CONTRACTOR TO COORDINATE WITH OWNER TO VERIFY LOCATION ON SITE'. ADDENDUM WILL BE ISSUED FOR PANEL TAG ESS IN LIEU OF HSS.LOCATION PRESUMED TO BE AT UNIT 1 OFFICE NEAR HALLWAY.

'2PPB4-E7'

Response: REFER TO DWG. NO. E6-02-01. AS SPECIFIED ON NOTES' CONTRACTOR TO COORDINATE WITH OWNER TO VERIFY LOCATION ON SITE'. ADDENDUM WILL BE

ISSUED FOR PANEL TAG ESS IN LIEU OF HSS.LOCATION PRESUMED TO BE AT UNIT 1 OFFICE NEAR HALLWAY.

4. Please confirm location of these new panels inside F-25 Building. We need to run new feeders as per single line on drawing E7-05-06.

'6PPF25-E1'
'2PPF25-E3'
'2PPF25-E4'
'2PPF25-E5'
'2PPF25-E6'
'2PPF25-E7'
'2PPF25-E8'
'2PPF25-E9'
'2PPF25-E10'

Response: Panel locations to be confirmed on site. Estimate 50% of panels are halfway across the building and remaining 50% are at the far end of the building.

5. '6DPF12-E1' is shown on two locations on E2-05-02. Please clarify.

Response: Panel to be located on first floor.

6. Please confirm location of this new splitter '6SF2-E1' inside F-2 Building. We need to run new feeders as per single line on drawing E7-05-05. Please clarify routing.

Response: REFER TO DETAIL 2 DWG NO. E2-05-03 FOR NEW SPLITTER LOCATION. F2 CONDUCTOR ROUTING REFER TO DWG NO. E1-00-02(ELECTRICAL SERVICES).

7. Please confirm location of this 15A,3P,600V FUSED DISC. (Milking Machine) inside F-19/22 Building. We need to run new feeders as per single line on drawing E7-05-05.

Response: F19/22 ELECTRICAL ROOM

8. Please confirm location of these new panels inside F-34 Building.

'6SF34-E1'

Response: REFER TO DETAIL 4 DWG NO. E2-05-02

AMENDMENTS TO PROJECT – GENERAL

- 1) Revision to Addendum 1 in regards to fire alarm system in E-houses as time lines of Electrical Upgrades project and Fire Alarm Upgrades project no longer coincide:
 - a. E-houses to be complete with standalone addressable fire alarm system. Complete with at minimum – multi-sensor detector, pull station, exterior weather proof horn strobe, and local fire alarm panel.
 - b. Fire alarm systems shall be capable of integrating with existing or new site wide fire alarm systems.
 - c. Approved manufacturers: Notifier, Simplex Grinnell, Edwards, or approved equivalent.

- 2) Clarification: Due to distances of buildings from each other and the main server, connections between buildings and/or from buildings back to main server to be done with fiber optic cable.
- 3) Revisions of manhole details and additions of transformer pads on drawing E3-01-02 will apply to all work packages where relevant.

AMENDMENTS TO THE SPECIFICATIONS

Reference: 13 34 23 – E-HOUSE PREFABRICATED BUILDINGS

1. Add section 1.3.3.1.2 to read:
“Submit shop drawings for individual E-houses complete with equipment layouts”.

Reference: 33 65 73 CONCRETE ENCASED DUCT BANKS, MANHOLES AND PULL PITS

1. Delete item 1.1.2.
2. Revise item 1.2.3.1 as per revised Section 33 65 73.
3. Delete item 2.3 as per revised Section 33 65 73.
4. Revise item 2.4 as per revised Section 33 65 73.
5. Delete item 2.5.
6. Delete item 2.6.
7. Add item 2.10. “Duct Bank Concrete” as per revised Section 33 65 73.
8. Revise item 3.3 as per revised Section 33 65 73.

AMENDMENTS TO THE DRAWINGS

Reference: E0-00-01 – ELECTRICAL DRAWING LIST AND LEGEND

1. Revised drawing revisions.

Reference: E0-00-01 – ELECTRICAL DRAWING LIST AND LEGEND

1. Revised drawing revisions.

Reference: E1-01-01 – NORTH EAST LOAD CENTRE – ELECTRICAL SITE PLAN

1. Revise pull pits near building A-4 to manholes.
2. Revised duct bank route to 5kV sectionalizing switchgear.
3. Labeled all new manholes for clarification.

Reference: E2-01-01 – NORTH EAST LOAD CENTRE – ELECTRICAL FLOOR PLANS – BUILDINGS A-3 & A-4

1. Existing normal power CDP-1 to remain to storage room. Delete relocated CDP in Mech/Elec room.

Reference: E2-01-02 – NORTH EAST LOAD CENTRE – ELECTRICAL FLOOR PLANS – BUILDINGS C-31, C-33, & E-HOUSE

1. Revised duct banks from manhole to sectionalizing switchgear and E-house.

Reference: E3-01-01 – ELECTRICAL DETAILS

1. Detail 2 – delete 4160V conductor from ductbank. Conduit to remain.
2. Detail 13 - delete 4160V conductor from ductbank. Conduit to remain.

3. Detail 6 – add 2-125mm ducts to ductbank, 1-4160V conductor and 1-spare.
4. Updated structural details on detail 15.

Reference: E3-01-02 – ELECTRICAL DETAILS

1. Detail 1 – Label ductbank entry near man door of E-house as “Ductbank from Transformer”.
2. Revise location of transfer switch.
3. Delete fire alarm notes.
4. Addition of detail 5 for transformer pad.
5. Revision of detail 4 for manholes.

Reference: E6-01-01 – ELECTRICAL DISTRIBUTION SCHEDULES

1. Update distribution schedules.

Reference: E6-01-02 – ELECTRICAL DISTRIBUTION SCHEDULES

1. Update distribution schedules.

Reference: E7-01-04 – SLD - NEW

1. Revise feeders from 6LCNE-N1 to 6DPP2-N1, 6DPP2-N1 from conductor in conduit to Teck.
2. Revise feeders from 6LCNE-E1 to 6DPA3-E1, 6DPA4-E1, 6DPC31-E1, and 6DPC33-E1 from conductor in conduit to Teck.
3. Revise feeder from transformer TXNE-E2 to panel 2PPNE-E2 from conductor in conduit to Teck.
4. Revise emergency generator from 600kW/625kVA, to 500kW/625kVA.
5. Revise breaker from normal power to fire pump to 1500AT/1600AF.

Reference: E2-02-02 –ELECTRICAL FLOOR PLANS – BUILDING B-2

1. Relocate existing panel ‘X’, existing splitter trough, existing transfer switch ‘EX-1’, and existing panel ‘XA’ to room directly north of current location shown.
2. Revise label on panelboard in main control room on main floor to ‘2PPB2-E3’

Reference: E3-02-01 –ELECTRICAL DETAILS

1. Detail 21 – remove requirement for house keeping pads.

Reference: E7-02-06 – SLD – NEW BE & B4 LOADCENTER

1. Revise feeders from 6LCB4-E1 and 2DPB4-E1 to B-11 from new feeders to existing feeders to remain.
2. Clarification – “Electrical Floor Plan Key Notes” on drawing refer to 6DPC22-N2.
3. Revise existing panel name on ‘2PPB4-E6’ from ‘Panel HSS’ to ‘Panel ESS’.

Reference: E7-02-07 – SLD – NEW BE1 & BW LOADCENTER

1. Revise ‘existing receptacle’, ‘existing circuit’, and ‘existing circuit’ in B-12, to be fed from new 120/208V panel ‘2PPB21-N3’
2. Provide and install new 120/208V, 225A, 3 phase, 4W panel board ‘2PPB21-N3’ in basement of B-12 complete with 100A3P main breaker. Feed new panel from 2DPBE1-N1 with 100A3P breaker and 4c#2/0 Teck.

Reference: E7-03-03 – SLD – NEW C-13 LOADCENTER

1. Revise feeders from C-13 to C-5 and C-29 from conductor in conduit to Teck.

2. Revise feeder from 6LCC13-E1 to 6DPC24-E1 from new to re-use existing.

Reference: E2-04-02 – ELECTRICAL FLOOR PLANS – UNIT 7 BUILDINGS C-24 & C-34

1. Detail 1 – label duct bank to electrical room 209 as ‘Existing’.

Reference: E7-04-05 – SLD – UNIT 6 LOAD CENTER

1. Provide and install new 3#3, 1#8GND-32C from 6DPU6-E1 to 6MCCU6-E1.
2. Provide and install new 3#3, 1#8GND-32C from 6DPU6-N1 to 6MCCU6-N1.

Reference: E1-05-01 – UNIT 8 ELECTRICAL SITE PLAN

1. Revised ductbank detail callouts and notes.
2. Revised site key plan notes.

Reference: E2-05-01 – ELECTRICAL FLOOR PLANS F-25 & F-72

1. Revised key note on TXF72-E1 to “2” in lieu of “1”.

Reference: E2-05-03 – ELECTRICAL FLOOR PLANS F-30, F-30 & GENERATOR HOUSE

1. Detail 3 - revised key note on utility transformer to “1” in lieu of “6”.

Reference: E3-05-01 – ELECTRICAL DETAILS

1. Revised duct bank details 3 and 10.
2. Addition of duct bank details 12 through 18.

Reference: E3-05-02 – ELECTRICAL DETAILS

1. Revisions to detail on F72 transformer.

Reference: E6-05-02 – ELECTRICAL DISTRIBUTION SCHEDULES

1. Update distribution schedules.

Reference: E7-05-05 – SLD – NEW MAIN FARM DISTRIBUTION

1. Added key note 14.
2. Applied note 14 to branch loads of 6SBF39-E2.
3. Added transformer and panelboard for generator building.

Reference: E7-05-06 – SLD – NEW UNIT 8 PRIMARY LOAD CENTER & F-25, F-72

1. Revised 5kV conductors.
2. Revised conductors to ATSU8-E1 and ATS size to 1000A.
3. Revised bus ampacity of 6SBF39-E1 to 1000A.
4. Revised main breaker of 6SBF25-E1 to 600A.
5. Revised note on branch load to F-39 from 6SBF39-E1.

Reference: S1-00-01 – Structural Generator and E-House Pad Details

1. Revise dimensions for Pads 1, 1A and 2 as per revised drawing.

Reference: E3-0#-0# – Electrical Details

1. Revise all manhole details as per attached drawing.
2. Revise Parking Distribution Panel & Transformer Detail as per attached drawing.
3. Add Pad Mounted Transformer Detail.

Attachments:

Drawing S1-00-01.

Section 33 65 73 Concrete Encased Duct Banks, Manholes and Pull Pits

E0-00-01

E1-01-01

E1-05-01

E2-01-02

E3-01-01

E3-01-02

E3-05-01

E3-05-02

E6-01-01

E6-02-01

E6-05-02

E7-01-04

E7-05-05

E7-05-06

END OF ADDENDUM NO. 3