

22 January 2016

Attention:

Gregory Hanna

Root Projects Australia

L 5, Kyle House, 27-31 Macquarie Place, Sydney 2000

Subject: UNSW EEB_CRM SEARS Application – Electrical Building Services

Dear Gregory

Report – Electrical Building Services Commentary

1.1 Design Principles

The project includes a staged refurbishment of all levels of the Electrical Engineering Building (G17 and and Rex Vowels Theater F17) at UNSW.

The design principles for this project are as follows:

1. To retain the existing HV infrastructure and ring main reticulation that resides within and around the building;
2. To provide a new main switchboard with the ability to bus tie from the two substation transformers;
3. To provide a new standby diesel generator mounted on the roof with a diesel fuel storage tank located underground in the loading dock area;
Fuel leak detection system will be provided in all generator areas, pump rooms, fuel risers, pipe headers, bulk tanks and day tanks
4. To provide a new low voltage reticulation arrangement throughout the entire building:

There will be two new low voltage risers in the South Block and two low voltage risers in the North block.

Each riser will serve approximately half of the block .This will allow for the majority of circuits to be no longer than 30m.

All risers will accommodate a Generator back-up Distribution Board, Floor Distribution Board (no generator back-up), risers and space for two harmonic filters to serve each board.

LV Power Supply System will include: consumers mains, metering, main switchboard(s), surge protection system, harmonic filters sub mains, electrical distribution boards, final sub circuits and related earthing systems including clean communication and functional earthing, power monitoring installation, associated networks and containment

5. To provide outlets and accessories including single and multiphase socket outlets, switching systems, single and multiphase permanent connections, lighting outlets and luminaires
6. To provide a new lightning protection design compliant with Sydney Airport Corporation Limited height restrictions;
7. To provide power, lighting and AV infrastructure cabling including MATV, satellite dishes and GPS antenna to research and teaching areas as defined in the area schedules.
8. To provide power supplies to all fire equipment, including all accessories and isolators where required
9. To provide internal and external general and emergency lighting system including luminaires, controls,
10. To provide exterior luminaire supply and installation including automatic lighting controls to landscape
11. To provide security systems including intruder detection, closed circuit television, and access control systems. All cameras, reed switches, electronic locking devices, push buttons, break glass, proximity card readers, intercoms, accessories, ups systems and isolators. Provide power to all security systems.
12. To provide power supplies to all goods and passenger lifts and hoists
13. To provide power supplies to all hydraulic panels
14. To provide power supply to all fire panels
15. To provide power supply to the mechanical plants.

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1.1 Regulations, standards and authorities

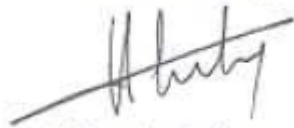
The Electrical and AV services shall be designed and constructed in accordance with the following requirements:

- UNSW Design and Construction Guidelines;
- National Construction Code (Building Code of Australia 2014);
- All relevant Australian Standards.

Yours sincerely

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