Alpha
Consulting Engineers Pte Ltd

FEEDBACK REPORT FORM

Ref No: 123-080310(S)

To: LCT

From: LFY

Job No./Project: ELECTRICAL MASTER SPECS
Section 5 – LV Main Switchboard *(where applicable)*

Source of feedback: _____

Scope of Feedback: * ☐ Quality ☐ Environmental ☐ Administrative ☐ Contractual ☐ Technical ☑ Specification ☐ Others

Section A : Problem & Cause Description of requirement for ACB with Motor Charged Spring operation timing, only title in the specs.

Section B : Mitigating Action Taken, if any

Section C : Suggested Corrective Action
Requirements added.

Section D : Approved Corrective Action

Document Affected * : ☑ Yes ☐ No Affected Document : E15-4

Approved By : _____ Date : 3/3

Section E : Action

Action By : NA Ruw

Targeted Completion : March 2010

Actual Completion : 3/8/10 Verified By : _____

** Mark [X] where appropriate*

Distribution:							

Closing mechanism shall be of the toggle action trip free type and incorporate mechanical 'ON'/'OFF' and 'ISOLATED'/'PLUGGED' indicators mechanically and positively coupled to the operating mechanism and mechanically interlocked to prevent:

(a) Withdrawal or plugging of the circuit breaker in the closed position.

(b) Closure unless either fully plugged or fully isolated.

(c) Opening of cubicle door unless breaker is isolated.

(d) Plugging until the cubicle door has been closed and locked.

Contacts shall be rated to carry continuously the full rated current within the manufacturer's recommended temperature rise limits in the degree of protection specified and without overheating, damage or deterioration. Contacts shall be individually spring loaded, hard silver plated, of the magnetically 'blown out' type so arranged that electro-magnetic forces arising under short circuit conditions do not tend to produce contact pressure.

Auxiliary arcing contacts shall be provided with renewable arc resisting alloy tips arranged to close before and open after the main contacts. Units shall be complete with primary and secondary isolating plugs and sockets, bolted type neutral link with provision of links for both transformer neutral earthing and connection, fixed busbar and feeder isolating contacts, screening shutters actuated automatically with the circuit breaker isolated and withdrawn and capable of padlocking in the screened position, arc chutes with baffle and splinter plates and efficient electro-magnetic arc control effective at all values of load current, including very low values, and magnetic blow out contactor, 230 volts a.c. shunt trip coil energised through relay contacts, auxiliary switches/relays/contacts for all necessary electrical interlocks including those associated with standby generators, remote indication of 'ON', 'OFF', 'FAULT' status, etc; four (4) spare auxiliary contacts, independently adjustable for N/O or N/C shall also be provided for each circuit breaker. 'Close' and 'Trip' push buttons and red and green indicating lamps shall also be provided.

5.11 Air Circuit Breakers with Motor Charged Spring Operation

The ACB shall be closed by independent motor charged spring operation. A separate manual charging mechanism shall be provided in case of power supply failure. Ensure that it is possible to charge the springs while the circuit breaker is closed so as to allow immediate re-closing after a subsequent tripping operation. An indicator to show the state of the charge of the spring shall be provided.

5.12 Moulded Case Circuit Breakers (MCCBs)

MCCBs shall comply with BS EN 60947-2 and shall have all the mechanical and live metallic components completely enclosed within the moulded insulating case.

MCCBs shall be manual or automatic tripping operation as required. The automatic type shall have tripping mechanism of the thermal magnetic temperature compensated type to provide inverse time delay overload circuit protection and instantaneous magnetic tripping for short circuit protection. The trip units in all the circuit breakers shall be interchangeable. Earth fault protection shall be provided where called for in the Specification Drawings.

The MCCBs shall not be able to switch on again when on TRIP condition unless it has been reset by switching to OFF position first. The operating conditions (i.e. ON, OFF or TRIP) of the MCCBs shall be clearly indicated.