

## CASE STUDY—ACB REPLACEMENT

### The Problem

The Royals Shopping Centre, like any large organisation relies on a continuous electrical supply. Any failure of supply would have serious consequences not only to the shops within the centre but the data-centres that a number of their clients employ.

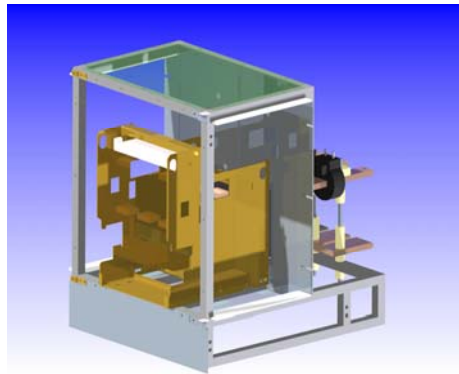


The main LV switchboard was some 20 years old and utilised Ellison GEA air circuit breakers. Whilst the ACBs had given years of good service they had encountered a number of problems with difficulty in closing and failure of the CPR Overcurrent relay fitted. There were also considerations made as to the problems in the supply of spare components in the event of future problems.

### The Solution

Following consultation with [ExEllison Switchgear Services Ltd](#) we embarked on a programme of replacing the ACBs with a modern units including integral protection units.

[ExEllison Switchgear Services Ltd](#) utilises the latest 3D solid modelling CAD systems to design its products to ensure a first-time fit every time. We have developed standard arrangements for a wide variety of ACB replacements. In this case Mitsubishi ACBs were utilised. The interface was designed to allow installation into the existing panel with the minimum of modification and down-time. A full assembly kit was supplied with no need for *cutting and carving* of parts to suit on site. Only the experience [ExEllison](#) have can guarantee a first-time fit without the need for a shutdown in advance of the installation.

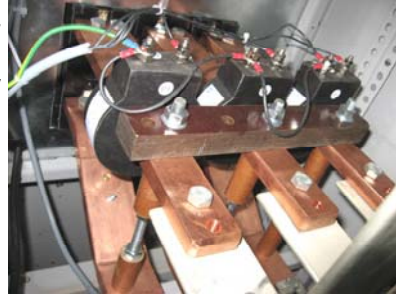


Note that [ExEllison Switchgear Services Ltd](#) **does not** install an ACB into an existing ACB chassis. There is little point in replacing an ACB whilst still relying on aged contact finger clusters. We take the old ACB out completely right back to the basic connections. This weak point is removed to ensure the integrity of the new assembly.

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Typically the removal of 2 incoming ACBS and a bus-section ACB and the installation of new replacement ACBs is completed within an 8-hour shutdown. In this case the three main ACBs were replaced in a planned 12-hour shutdown—with 3 hours to spare. The opportunity was taken to upgrade the metering by fitting multi-function metering integrally to the new modules.

ExEllison's unique design ensures perfect alignment of copperwork with no cutting on site. CTs can be fitted within the new module to supply the new metering. Fuse fed voltage references are also incorporated.



Internal shrouding is fitted to make the ACB module complete. A fully shuttered Cassette is used to ensure the operators safety.



The installation is completed and the equipment returned to service following ACB testing. The equipment is now suitable for continued use at a fraction of the cost of a replacement switchboard and all of the associated civil and cabling works.

For Further information on ACB replacements or our other services contact us at [enquiries@exellison.co.uk](mailto:enquiries@exellison.co.uk) or Tel 01902 632639. Mob 07786 350764, 07973 563855.

ExEllison Switchgear Services:

ACB Replacement  
Spares  
Extension Panels  
Retrofit metering  
Maintenance  
Transformer replacement  
PFC Panels

Protection replacement  
Switchboard modifications  
Emergency response  
Control panels  
Installation Services  
Substation equipment  
Operational Information