CMDHB power incidents

*Media reports around recent electricity outages at CMDHB facilities have been confusing as they have combined several outages and reported them as one.*

*Below is the information regarding outages at Middlemore Hospital and Manukau Superclininc.*

***CM Health does not consider that the electrical power supply to CMDHB facilities, including Middlemore Hospital and the Manukau Superclinic, is unreliable.***

**Power outage 9 October 2017**

The Middlemore high voltage supply cables tripped on high current at 1.18pm on Monday 9 October 2017.

All generators in the affected area, apart from two, operated as expected. The two generators covering KidzFirst and the McIndoe building started but due to various control issues, did not connect for nine minutes.

Critical functions are not affected by these types of issues and saw no loss of power supply. Critical functions are continually running on batteries via Uninterruptible Power Supplies (UPS). The batteries are constantly being recharged via the Essential Power supply/generators.

During those nine minutes, patients and staff saw a loss of power, including the activation of emergency lighting.

The settings on the Middlemore HV circuit breakers have since been reviewed and adjusted.  Replacement and upgrading of circuit breakers will be part of a remediation program.  Consultants have been engaged to undertake an asset remediation review.

**Power outage on 11 March 2018**

On Sunday 11 March 2018 Transpower had a transformer issue that affected significant areas of Mangere, including Middlemore Hospital, from approximately 4.15pm to 5.30pm.

The six Middlemore generators started and supplied power to the Essential Power systems, as they were designed to.

It takes 20 seconds for the generators to start, come up to speed, connect to the power supply and commence supplying Essential Power.

Critical functions are not affected by these sorts of power outages and saw no loss of power supply. They are continually running on batteries via Uninterruptible Power Supplies (UPS). The batteries are constantly being recharged via the Essential Power supply/generators.

The patients and staff saw a 20 second loss of Essential power supply before the generators took over. Non Essential power systems were affected from 4.15pm to 5.30pm. This would have been obvious through reduced lighting.

**Non Essential power issue Manukau SuperClinic 3 April – 28 May 2017.**

Vector owns and operates the 2 high voltage power cables which supply the Manukau Health Park (of which the Superclinic is a part).  One HV cable supplies the Essential Power system (which is backed up by a CMDHB generator), the other HV cable supplies power to the Non Essential power system.

We have experienced one significant fault.

At approx. 5.45 pm 3 April 2017 the Vector Non Essential high voltage power supply cable faulted. This resulted in the Manukau Health Park having HV mains power for the Essential Power system and no power for the Non Essential Power system. This is a normal system design.

The CMDHB emergency generator, which is reserved for the use on the Essential Power system, was not subject to a power failure and as a result was not required to start, as per normal system design.

CMDHB engineering staff attended the outage in conjunction with Vector staff.  Initial investigations were undertaken to determine the fault was on the high voltage supply side.

At approximately 7.30pm CMDHB engineering staff manually started the CMDHB emergency generator and manually operated switches to allow the emergency generator to supply the Non Essential power.

This design feature allowed CMDHB the flexibility to use the emergency generator for the Non Essential supply, and provided resilience to the overall system.

Vector undertook emergency investigations to locate the fault, which was underneath the building.  Vector determined the fault to be unrepairable.  Vector supplied and connected a large temporary generator over the night of 3 April. This meant the HV mains were supplying Essential Power and the Vector generator was supplying Non Essential power.

When the Vector generator was on-line, the CMDHB generator was stopped and again switched to provide back-up to the Essential Power supply.

The period that Vector provided a generator to cover the Non Essential power system was from 3 April to 28 May. No surgeries were cancelled or postponed as a result. There was a half hour delay to the beginning of the day on 4 April.

Vector has subsequently replaced the 2 original HV cables with 2 larger capacity cables which will also cater for future electrical load at Manukau Health Park.

CMDHB has ongoing projects to further increase resilience of the power system. This is referred to in the Indicative Facilities Capital Requirements table under the Remediation Programme heading. There is a line which refers to Manukau Power Resilience Upgrade. The figures are 17/18 $1 million; 18/19 – 21/22 $2 million; Total $3 million.