

# Retro-Commissioning (RCx) – Fact Sheet



Hong Kong Park Sports Centre

FaS\_002



## Hong Kong Park Sports Centre

**Address:** 29 Cotton Tree Drive, Central

**User:** Leisure and Cultural Services Department

**O&M Team:** EMSD/MunSD

**>5%**  
Building  
Electricity  
Saving

## Background

Year of Completion: 1991

Normal Operating Hours: 07:00 - 23:00

**Building Description:** A 3-storey building with multi-purpose main arena for 2 basketball courts, 2 volleyball courts, 2 netball courts or 8 badminton courts and 1 multi-purpose activity room, 3 table-tennis tables, 1 fitness room and an indoor jogging track.

Air Cooled Chiller Capacity: 3 x 320kW ACC

Transformer Capacity: 1 x 1500 kVA

## Energy Saving Opportunities in RCx

### (1) **Tuning of return air temperature (RAT) setpoint**

Before RCx, the RAT setpoint at air handling unit (AHU) was fixed. It is recommended to adjust the RAT setpoint to achieve energy saving.

(2) **Application of cleansing mode** Before RCx, there was no separate operation mode for cleansing period. The facility has scheduled a cleansing period every 1<sup>st</sup> and 3<sup>rd</sup> Mondays of each month from 07:00 to 13:00. It is recommended to reduce the A/C supply and lighting during the cleansing period.

(3) **Tuning of chilled water supply temperature (CHWST) setpoint** Before RCx, the CHWST was set to a constant value over a year. It is recommended to vary the CHWST setpoint subject to the outdoor temperature. Resetting CHWST setpoint can reduce electricity consumption of the chiller while providing sufficient cooling capacity to satisfy cooling demand.

## **Energy Saving Opportunities in RCx (Cont'd)**

- (4) **Tuning of chilled water pump (CHWP) speed** Before RCx, the CHWP run at a constant speed over a year. It is suggested to reduce the operating speed of CHWP in mild seasons in order to save energy. Lowering CHWP speed can reduce electricity consumption of the chiller while satisfying the cooling demand without adverse implication to system operation in mild seasons.
- (5) **Tuning of AHU fan speed** Before RCx, the AHU fan run at a constant speed over a year. It is suggested to reduce

the operating speed of AHU fan in mild seasons in order to reduce the electricity consumption without adverse implication to system operation.

- (6) **Tuning of primary air unit (PAU) fan speed** Before RCx, the PAU fan run at a constant speed over a year. It is suggested to reduce the operating speed of PAU fan in mild seasons in order to save energy. Lowering fan speed can still satisfy the demand without adverse implication to system operation.

## **Energy Saving Opportunities (ESO) Summary**

### **Energy Saving Opportunities (ESOs)**

### **Action**

Tuning of RAT setpoint

Manually increase the RAT setpoint

Application of cleansing mode

Reduce A/C supply and lighting in operation during cleansing period

Tuning of CHWST setpoint

Manually reset CHWST setpoint periodically

Tuning of CHWP speed

Manually reset CHWP speed periodically

Tuning of AHU fan speed

Manually reset AHU fan speed periodically

Tuning of PAU fan speed

Manually reset PAU fan speed periodically