

TECHNICAL BULLETIN

BUILDING SERVICES OPERATION TO PREVENT THE SPREAD OF COVID-19



mitie

TECHNICAL SERVICES

Bulletin No. 005

19th March 2020

INTRODUCTION

On 11 March 2020 coronavirus was officially classified as a pandemic by the World Health Organisation (WHO). The UK Government has adopted a strategy to slow down the spread in the country in order to minimise the impact of the disease on society, public services and on the economy. Mitie operates customer buildings visited daily by up to 5million people, in normal times. In response to the pandemic, we have set up an escalation framework with working groups from operational to executive level.

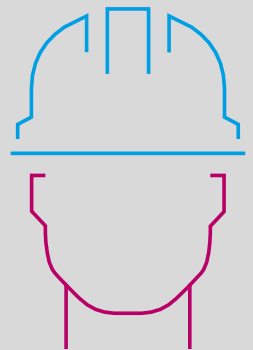
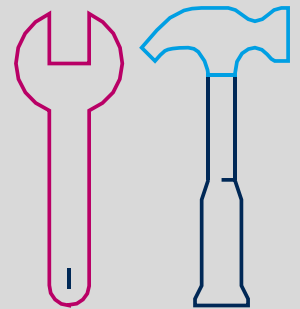
CHALLENGE

Mitie's customers are adapting to a new situation with new risk but also some opportunities :

- How do you keep your **buildings fully operational** despite the enhanced risk of spreading the virus (e.g. is your ventilation system set up to full fresh air)?
- Have you considered the risk associated with **reduced occupancy** (e.g. need for enhanced water bacteria control)?
- Are you **shutting down buildings** in a way that keeps you compliant and allows seamless recommissioning (e.g. using SFG30 guidance)?
- Are there **opportunities to reduce the cost impact** to your organisation (e.g. by saving energy or bringing forward major maintenance / projects / backlog / BS 7671 electrical testing)?



Irrespective of your workplace decisions during the pandemic, Mitie can support your optimum building services strategy to mitigate risk and look for opportunities.



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BACKGROUND

The published COVID-19 guidance document of the 17th March 2020, by the Federation of European Heating, Ventilation and Airconditioning Association (REHVA), helps understand that, as far as we know, the virus is transmitted in 4 ways which Mitie believe they can influence with a targeted Building Services operation approach:

| Contamination routes | Example of related Building Services topics |
|----------------------|---|
| Droplets | Ventilation systems maintenance |
| Surface | Fabric and Cleaning regime |
| Contact | Workplace communication |
| Faecal-oral route | Waste and drainage monitoring |

A US Government research published on the 11th March 2020 suggest that the virus can remain viable:

- in the air for up to 3 hours,
- on copper for up to 4 hours,
- on cardboard up to 24 hours
- on plastic and stainless steel up to 2 to 3 days.

The same publication states that there is uncertainty whether people can become infected by breathing the virus in from the air.

In this context, Mitie are keen to offer their expertise to review and implement preventative measures adapted to the risk situation of each workplace. We can also recommend to bring forward essential maintenance activities.

PROPOSED BUILDING SERVICES SITUATION ASSESSMENT AND RECOMMENDATIONS

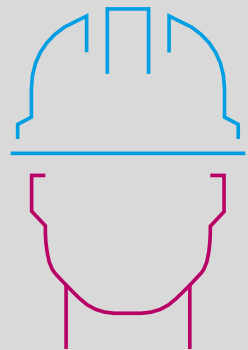
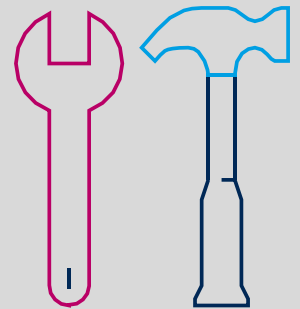
Our asset and risk management team, led by Nigel McElvenny, will work alongside our Account Management teams and involve subject matter experts from Mitie Technical Services and Cleaning Environment Services. We propose to adopt a phased approach to assess the situation and bring our expertise to support a swift and informed decision process with our customers. We will make our recommendation with any price or saving impact.

3-4 days situation assessment to implementation of improvement



Issues will be reported by both priority rating and costs enabling for effective management of issues across a workplace. Cost estimates for remedial work or enhanced service will be issued primarily based on rates prevailing in each contract (if applicable), ensuring transparent and consistent costing.

Also, this is a good opportunity to identify projects that would cause site closure, as this can be avoided.



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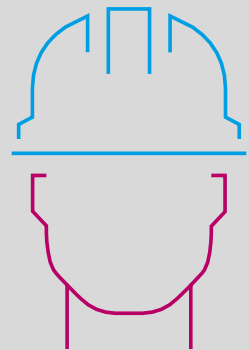
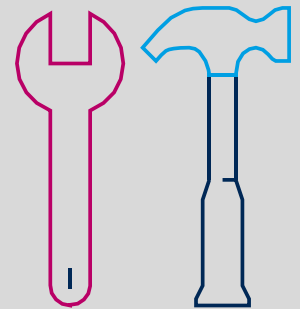
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EXAMPLE AREAS OF RECOMMENDATION:

RISK MITIGATION BY ADAPTING BUILDING SERVICES AND MAINTENANCE STRATEGY

| | |
|---|--|
| <p>Adapted planned Preventative Maintenance regime</p> | <p>In “ordinary times” the maintenance regime may have been adapted to the level of risk. In Pandemic time, and in reduced occupancy buildings, Mitie can review the approach side by side with their customers to buildings. Internal air conditioning units circulate the air within a room so increased filter cleans and disinfect is recommended. Taps would, in effect, become little used outlets. Adapted flushing regime recommended. Descaling of tap heads with spray inserts to prevent the proliferation of legionella.</p> |
| <p>Achieve full fresh air</p> | <p>For our NHS customers, we already follow the Health Technical Memorandum guidance stating: “Unless otherwise specified below, the ventilation system should achieve not less than 75% of the design air-change rate, or its original design parameters. The pressure regime should achieve not less than 75% of the design value, or its original design parameters; and the pressure gradient relationships with regards to surrounding areas must be maintained.” BMS should be set accordingly.</p> |
| <p>24 hour ventilation</p> | <p>Turning off local room side AC keeps the air stationary rather than contributing to dilute the plume of air which can stay airborne in a room for 3 hours. An adjustment of the temperature set point out of hours remains possible to mitigate carbon and cost impact. If already installed the UV lighting should be switched on,</p> |
| <p>Enhance monitoring of toilet extract, grilles</p> | <p>It may be advisable to enhance the maintenance regime SFG20 26.01 “Grilles and diffusers” by either removing the grille to clean both sides or to use air jetting and extraction methods to dislodge deposits. Motors should operate at the speed which contribute to the negative air pressure of the toilet.</p> |
| <p>Manage cross contamination between facilities</p> | <p>Review operating procedure and map routes throughout buildings to prevent the spread of human touch contact and engineers carrying debris from filters on their uniform.</p> |
| <p>Control of Substances Hazardous to Health (COSHH)</p> | <p>The WHO states that disinfectants with 62-71% ethanol, 0.5% hydrogen peroxide or 0.1% sodium hypochlorite (bleach) can “efficiently” inactivate coronaviruses within a minute. “We expect a similar effect against the 2019-nCoV,” the researchers wrote, referring to the new coronavirus. But new evidence will have to be taken into account to adapt COSHH if necessary.</p> |
| <p>Cleaning / sanitisation</p> | <p>Our reprioritise or enhance resources. For instance, fabric engineers may support an enhanced flushing of low use water outlets in reduced occupancy engineers can contribute to enhance the cleaning regime while specialist cleaning can be recommended for sanitisation of internal areas, using, for instance, Chlorox equipment and Citrox Fogging.</p> |



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EXAMPLE AREAS OF RECOMMENDATION:

OPPORTUNITIES (SAVE ENERGY, DELIVER FORWARD MAINTENANCE AND PROJECTS FOR LESS)

| | |
|---|---|
| <p>Minimised energy consumptions</p> | <p>For buildings with reduced occupancy, we should ensure that the building parameters are optimised, minimising energy consumed and therefore reducing cost as much as possible. Turning down heating, reducing lighting, re-circulating air are just some measures our BMS team can take. Site connected to the SOC can do this remotely. Alternatively an intervention is required, when we can also connect sites to the SOC to ensure ongoing remote management of properties.</p> |
| <p>Energy cost / tariff management</p> | <p>Throughout the period of operational change we can provide a number of cost saving and cost control measures. These include ensuring that bills are accurate, reflecting consumption which is likely to be significantly reduced, and assisting the purchase of energy in the most cost effective way.</p> |
| <p>Opportunity to undertake projects and forward maintenance</p> | <p>A reduced occupancy can be a unique opportunity to access client premises during daylight and have the benefit of unimpeded access, not only enabling work put on hold but also delivering at a price reflecting cost effectiveness.</p> |

RETAIN VALUABLE STAFF WHO WILL BE NEEDED WHEN FULL OPERATION RESUMES

| | |
|--|---|
| <p>Other examples of activities benefiting assets resilience and retaining skilled staff, with their skills and knowledge</p> | <ul style="list-style-type: none"> • Generators weekly testing to prevent any oil separation. • Enhance monitoring of power and cooling of central servers allowing staff to work from home. • Water tanks clean where practicable to prevent any proliferation of legionella. • Calorifier blow downs and pasteurisation sometime excluded from annual plan but can be beneficial for asset life-cycling. • Descaling of adiabatic chillers with spray nozzles with maintenance regime which may be cost effective compared with mothballing decommissioning process • Undertake duct cleans and contribute to reassure clients end user on their return to a bacteria/germs free building throughout. |
|--|---|

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