AECOM

ADAPTING TODAY
FOR A NEW TOMORROW



RETURN TO WORK: MOTHBALLING AND BRINGING BUILDINGS BACK TO LIFE

The speed of the shutdown imposed to fight coronavirus meant many sites, buildings and estates had to close quickly, and at much shorter notice than normal. The hurried response meant structured, planned shutdown procedures couldn't always be followed. As we prepare to bring buildings back into use, AECOM's **Michael Smith** and **Mike Burton** says safety and security should be a priority.

Buildings can be mothballed for a variety of reasons, from maintenance and refurbishment to change of use or when tenants move out. In normal times, technical and non-technical planning processes are carried out to ensure the building is safe and secure while it is unoccupied, and that reoccupation can be as safe, fast and efficient as possible. Many of these processes couldn't be followed during the recent shutdown, but it's not too late to assess the measures already taken and enhance them for a robust return to service.

Best practice

The complexity of buildings requires a methodical approach, with plenty of and best practice to draw on. In the UK this can be found in the SFG30 Guide to Good Practice — Mothballing and Re-commissioning of Buildings [1] and the recently published Construction Leadership Council Advice on temporary suspension of sites [2]. The advice is clear with step-by-step processes and identified checklists.

> THE COMPLEXITY OF BUILDINGS REQUIRES A METHODICAL APPROACH, WITH PLENTY OF AND BEST PRACTICE TO DRAW ON.

MOTHBALLING CHECKLIST [3]

- Building management system controls
- Ventilation
- Compressed air systems
- Cooling
- Electrical
- Fire alarms
- Emergency lighting
- Water hygiene services
- Plumbing
- Heating
- Chilled water systems
- Oil supply
- Gas supply
- Swimming pools
- Catering services
- Refrigerant gases

RECOMMISSIONING CHECKLIST [4]

- Emergency lighting
- Compressed air systems
- Cooling
- Electrical
- BMS/controls
- Fire alarms
- Water hygiene services
- Plumbing
- Heating
- Chilled water systems
- Catering Services
- Refrigerant gases
- Swimming pools

TECHNICAL REQUIREMENTS

Here we focus on the key technical aspects of mothballing and recommissioning to ensure a safe secure and risk-free return to buildings and sites.

1/ WATER



Stagnant water risks developing harmful bacteria and can carry water borne infections. It also corrodes systems leading to costly repair and replacement, and ultimately a delay in building reoccupation.

Cleaning, refilling and disinfecting domestic hot and cold water systems accompanied by appropriate checks on the water, ruling out Legionella or Pseudomonas bacteria, must be carried out. Thorough bacteriological water testing will be required for domestic mains, tanks and outlets as well as Legionella testing tanks and outlets. There may be a need for full systems clean and disinfection.

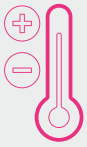
2/ VENTILATION



If left untended, extract ventilation systems can become hazardous, particularly in demand areas of the building such as the kitchen. Grease build up can potentially develop into a fire risk as well as harbour harmful bacterial, itself a health risk. This can be avoided by deep cleaning all equipment including ventilation systems.

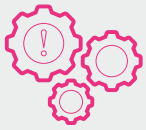
> SPECIALIST INSPECTORS ARE LIKELY TO BE IN HIGH DEMAND AS BUILDINGS AND SITES START TO OPEN, SO EXTRA TIME SHOULD BE ALLOWED TO SECURE THEIR SERVICES, WHERE NECESSARY.

3/ HEATING AND COOLING



Linked to the water systems, building heating and cooling systems will also need bacteriological water testing and may need additional water treatment if problems are found. Cooling towers will need to be drained, cleaned and chlorinated. Chilled water systems and heating systems should be dosed with corrosion inhibitor and biocide, and water circulated monthly.

4/ CRITICAL SERVICES



Maintaining the security and safety of buildings and sites is critical, even in lockdown. Services such as security, fire systems, emergency lighting and computer and AV hardware should be kept fully operational to protect the building or site and its contents and/or materials.

5/ BUILDING SYSTEMS



No matter how long the building or site has been unoccupied, plenty of time will need to be set aside for a thorough testing and re-commission of the building's systems. Five to ten days should be allowed, depending on the size of systems. Specialist inspectors are likely to be in high demand as buildings and sites start to open, so extra time should be allowed to secure their services, where necessary.

> TAKING ACTION AHEAD OF TIME WILL MAKE THE PROCESS OF RETURNING BUILDINGS AND SITES TO OPERATION SMOOTHER, MORE EFFICIENT AND SAFER.



The non-technical

Where less-formal guidance is the norm, a risk-based approach needs to be implemented across non-technical aspects of a building or site so the return to buildings is safe and swift. These include:

- Check security: review staffing levels, and system operation.
- Implement grounds maintenance: a clean building and site will be critical, particularly post-coronavirus. This should be implemented as soon as possible, in particular regarding vermin control.
- Remove temporary structures and dispose of refuse where practical.
- Monitor for odours: burning and sewage smells can indicate faults with building services and drainage systems.
- Notify your insurance provider. If your premises are going to be unoccupied for more than a set number of days (on average around 30 days), you are required to notify your insurance provider as this could impact the cover offered in your policy. In all instances we recommend you contact your insurance broker for clarification.

Maintaining statutory compliance

The Health & Safety Executive (HSE) recently published a guidance on statutory obligations entitled: *Carrying out thorough examination and testing of lifting and pressure equipment during the coronavirus outbreak* [5]. *Although it states that the HSE will "adopt a pragmatic and proportionate approach towards enforcement" for non-compliance, the statutory obligations remain in place. "HSE expects duty-holders to make all reasonable efforts to arrange for TE&T [thorough examination and testing] to be carried out within the statutory time limits."*

Returning to working buildings and site

Taking action ahead of time will make the process of returning buildings and sites to operation smoother, more efficient and safer. Guidance and specialist knowledge can turn a potentially risky and complex recommissioning programme into a safe and prepared, compliant return to work. WL

THE FUTURE OF INFRASTRUCTURE
CREATING OPPORTUNITY FOR EVERYONE

Investment in infrastructure has the power to alleviate today's economic distress and create opportunities for tomorrow.

infrastructure.aecom.com