

COVID-19 PANDEMIC: PROPERTY LOSS PREVENTION

Precautions for Restarting and Restoring Operations

At FM Global we remain committed to providing our clients with the best property loss prevention advice to keep your facilities resilient and safe, particularly during these challenging times. Some countries/regions around the world are starting to ease restrictions allowing the first steps towards restarting economic and industrial activity.

Even in normal times, the safe and efficient startup of industrial processes can pose significant property risk challenges. Doing so in the current conditions, industry may be faced with additional challenges such as shortages of experienced staff, continuing social-distancing requirements, reduced access to specialized support from contractors and original equipment manufacturers, much longer lead times for spare parts or equipment, and under-maintained equipment that may have deteriorated while idle.

These combined additional challenges should be factored into your restart plans. This document is designed to provide you with guidance on how to approach the restart of your operations to help ensure this is accomplished as smoothly and as safely as possible. FM Global and AFM Clients should seek additional support from their account engineer or local FM Global loss prevention engineer.

PROPERTY LOSS PREVENTION ADVICE

- Develop an overall strategy/plan
 - Develop a strategy for reopening in advance, involving key stakeholders
 - Clearly define roles and responsibilities with the suggestion to create a team responsible for overseeing the reopening of the facility
 - If possible, dry run various anticipated scenarios associated with reopening
 - Communicate the strategy and plan with your staff prior to commencing restart activities
- Evaluate restarting processes and equipment

In many respects, this is an area of greatest concern owing to:

- Operators experienced in the practices and parameters necessary to ensure safe process and equipment startup may not be available (due to continuing social-distancing or furlough measures)

- Potential barriers posed by social-distancing requirements to clear communication between operators and at shift handovers
- Safety systems such as relief valves, sensors and shutoff valves may have experienced deterioration (due to an inability to perform regular checks) that could impair their effective operation at restart
- In a bid to make up lost production, there may be a temptation to run equipment beyond its design capacities and parameters

Our best advice is that clients approach this restart essentially as starting the plant/equipment for the first time. Therefore, these steps are considered highly important:

- Review process and equipment standard operating procedures, including startup, shutdown, and emergency shutdown procedures
- Review and refamiliarize operators/supervisors with original equipment manufacturers' manuals and safety instructions

- Consult with your FM Global/AFM account engineer on specific FM Global property loss prevention advice for your specific processes/equipment.
 - Conduct a pre-startup safety review. Consider using the input of experienced personnel and outside expertise. Identify critical parameters, controls and safeguards and ensure staff are trained in them.
 - Ensure effective means of communication are provided (such as two-way radios, regular remote meetings, etc.) in order to overcome the impact of social-distancing requirements.
 - Ensure the structure and means are provided to allow effective shift-handover meetings; the status of key process parameters and any impaired safety devices and interlocks should be clearly indicated and communicated.
 - Inspection, testing and maintenance
 - » Evaluate any missed equipment maintenance activities during the idle period, and address those that need to be completed before restarting.
 - » At a minimum, conduct functional testing of the safety controls and devices for both equipment and processes.
 - » Ensure that alarm signals are properly transmitted and received to allow prompt operator response to avert dangerous conditions.
 - Utilities
 - » Verify that critical support utility services/systems are fully available and functional.
 - » Review availability of routine and critical spare parts which may be needed during the process of restoring production and utility support system equipment to operational condition.
 - » Review business continuity plans and equipment contingency plans. Determine if there are any necessary changes due to the idle period and adjust the plans accordingly.
 - Startup procedure
 - » Follow OEM cold start procedures particularly where warm-up or ramp-up steps are required.
 - » Conduct a test run of equipment and processes in a non-production mode to confirm process controls and safeguards are operating correctly.
 - » Follow startup guidance for various pieces of equipment, including any necessary pre-startup safety reviews.
 - » Review equipment lay-up procedures that were followed in preparation of idling equipment to identify if specific actions/sequence need to be reversed
- Human element programs
 - Review core human element programs and the matching resources they require.
 - Be particularly vigilant with hot work that may be required to remove temporary structures or to remove/undo process equipment changes made during the pandemic.
 - Contractors:
 - » Ensure contractor management controls and resources are fully available before bringing contractors on-site.
 - » Ensure contractors have necessary qualifications for the expected work, particularly with the potential for temporary or less qualified contractors in force following the pandemic.
 - If a management-of-change program exists, use the program to guide the identification of unrecognized hazards that may have been introduced during the idle period.
 - Confirm that no improper housekeeping conditions developed during the facility idle period. Correct improper conditions before restarting equipment or processes.
 - Staffing:
 - » Review staffing adequacy to support necessary maintenance, operations, etc. on all shifts.
 - » If applicable, evaluate minimum safe staffing requirements and protocols for operating with reduced staffing.
 - » Conduct test audits of operators for critical procedural actions.
 - » Train any new staff hired following the pandemic.
 - Evaluate the site and building
 - Review which site security protocols need to be restored with a return to operational conditions
 - Survey building exteriors for evidence of physical damage or deterioration that may have occurred during the idle period, such as:
 - » Roof coverings, drains, perimeter flashing, and roof-mounted equipment
 - » Utility power yard, especially trash or brush accumulation
 - » Perimeter doors
 - » Yard equipment or materials
 - » Any new exposures that may have been introduced

- Complete any necessary repairs or maintenance
- Manage temporary construction and processes
 - If any temporary structures (e.g., temporary medical tents/facilities) have been erected within or adjacent to a facility, pursue their safe removal as soon as possible when no longer required (please use extra caution with any hot work)
 - If changes to process operations and associated safety interlocks/devices have been made (for example, the temporary production of goods to support efforts to fight the pandemic), ensure these safety systems and processes are returned to their normal state
 - If any modifications have been made to electrical or utility systems to accommodate idling or a temporary change in processes, ensure they are returned to their normal state
- Evaluate cyber hazards
 - Review industrial controls and confirm no improper settings or unauthorized access.
 - If changes to remote access were made in response to the pandemic, review if these remain needed and appropriate; shutdown or secure any remote access that is no longer needed.
 - Ensure all operating system(s), antivirus, and antimalware software are patched and up to date before bringing systems back into operation or connection.
- Evaluate the supply chain
 - Different countries and regions will lift restrictions at different times. As a result, clients may face a shortage of some supplies and/or logistic services and may need to explore alternatives.
 - In certain industries, supply chain adjustments may create the need for requalification of processes.
- Verify fire protection systems are in service
 - Ensure fire protection equipment is in full service.
- Evaluate any missed inspection, testing, and maintenance activities during the idle period, and address those that need to be completed.
- If not tested during the idle period, test building fire alarms.
- Evaluate Natural Hazard Preparedness
 - Ensure adequate supplies are available to support any natural hazard emergency preparedness plans.
 - Ensure adequate personnel are available. Where regularly assigned employees are no longer available, identify and train replacements.
 - Ensure that physical (permanent or temporary) protection is in good condition.
 - For plans that include obtaining services/equipment from third-party suppliers, verify their availability.
 - Review site conditions to identify changes that may have occurred that could impact the plan.
- Capture lessons learned
 - Once production is restored, review effectiveness of implemented protocols for idling and restarting the facility and identify opportunities for improvement.
 - Create or revise the site's pandemic response plan accordingly.

USEFUL RESOURCES

These FM Global resources can provide you with additional information:

- FM Global Loss Prevention Data Sheets: [fmglobal.com/research-and-resources/fm-global-data-sheets](https://www.fmglobal.com/research-and-resources/fm-global-data-sheets)
- FM Global COVID-19 Resources: [fmglobal.com/about-us/our-business/executive-message](https://www.fmglobal.com/about-us/our-business/executive-message)

For more information and methods for addressing loss prevention concerns at your facility, refer to the free resources on FM Global's website at [fmglobal.com](https://www.fmglobal.com). FM Global and AFM clients can contact their account engineer.



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