Precautions During Vacated or Idle Production Periods

INTRODUCTION

Facilities can be idled temporarily or long term for a variety of reasons. During idle conditions, it is important to maintain key facility systems to ensure safe conditions for the building and equipment to minimize the risk of property damage.

The checklist below is a guide to identify action items for completion *before*, *during*, and upon *resumption* of operations at your facility. Specific site requirements will vary depending on conditions. Please contact your loss control consultant or account engineer at Tokio Marine America to discuss questions specific to your facility.

I. Precautions

A. Heat

During cold weather, maintain sufficient heat in facility buildings to prevent frozen sprinklers or other wet pipe fire service lines. Heat all areas of a building protected by wet pipe sprinkler systems to a minimum of 40°F (3°C). Temperatures in remote corners should be checked daily. Branch lines near windows or outside walls are subject to freezing even when the center of the structure is properly heated.

B. Electric Power

1. Maintain lights in service throughout the idle period.
2. Maintain power for fire pumps, fuel burners used for heating purposes, and ventilation fans in flammable liquids rooms that contain storage.
3. Open all power circuits that are not required for emergency use. Use proper lockout procedures on idled process equipment to prevent unauthorized start-up.
4. De-energize transformers that are not used to provide power for fire pumps or other necessary equipment and lighting.
5. Eliminate unnecessary electrical equipment and other such ignition sources.

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C. Inspection Program

1. During freezing weather, check the temperature of the water in gravity tanks and reservoirs daily.
2. Continue the established fire system inspections as outlined in applicable NFPA Standards.
    - NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems
    - NFPA 72®, National Fire Alarm and Signaling Code®
    - NFPA 80, Standard for Fire Doors and Other Opening Protectives
    - NFPA 101®, Life Safety Code®
    - NFPA 105, Standard for Smoke Door Assemblies and Other Opening Protectives
    - NFPA 110, Standard for Emergency and Standby Power Systems
3. Maintain all sprinkler systems in service. Consider conversion to dry pipe sprinkler systems in cold climate areas. Where buildings are of combustible construction, maintain automatic sprinklers in operating condition.
4. Maintain all fire protection water supplies in service. Schedule periodic maintenance of all fire protection systems.
5. Conduct briefings with the responding fire and police departments regarding the status and current condition of the facility. Give tours of the facility to first responders and information on changes in methods of access to pumper connections, buildings, power distribution, etc.

D. Facility Security Patrols

The safety of vacated and idled facilities depends largely upon constant and competent security service. Before a facility is idled, it is important to reexamine the security personnel's knowledge of their emergency duties and the facility's protective equipment.

1. Provide hourly, recorded security patrols throughout the facility at all times to detect unauthorized entrance or possible fire conditions. Maintain combination security/fire alarm systems in operating condition.

    Note: Where onsite security cannot be maintained, ensure that intrusion burglary alarm systems are kept in service.

    A daily site tour by facility maintenance / engineering personnel is highly recommended.

2. Closely supervise any yard storage. Maintain all combustible storage at least 50-ft away from the buildings and twenty-five feet from all fence or perimeter lines and adjacent properties. Maintain any plastic storage a minimum of 150-ft. from buildings.

    If the recommended separation distances are not possible, then remove storage from property.

3. Control weeds and brush to reduce the potential for exposure fires.
4. Maintain perimeter security fencing, lighting, video surveillance as provided for the facility.

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E. No Smoking

1. Establish No Smoking rules on the property and inside vacated or idle facilities. Communicate consequences for careless behavior to all employees and contractors on the premises.

F. Fire Doors

1. Keep all self-closing fire doors at vacated and idle facilities closed.
2. Maintain automatic fire doors in proper operating condition and keep communicating openings free from obstruction.

G. Flammable Liquids Storage Room Ventilation

1. Keep ventilation fans for flammable liquids storage rooms in operation as long as the room contains flammable liquids storage.
2. Ensure all containers and cabinets are kept closed to minimize possible flammable vapors or liquid releases.
3. Flammable liquid systems requiring constant recirculation should be drained and cleaned. For safety, these systems should be filled with an alternate inert gas (N_2) or liquid. Recirculation systems kept in service during idle production periods *should not be left unattended*.

H. Maintenance of Fire Systems and Protective Equipment

1. Immediately repair any defective yard mains, gravity tanks, reservoirs, fire pumps, hydrants, sprinkler equipment, and alarm devices. Immediate repair of fixed carbon dioxide and foam systems are required only if the devices are protecting stored liquids, gases, or process equipment that remains a hazard.
2. At vacated facilities, maintain and test fire extinguishers, hose lines, self-contained breathing apparatus, etc. The property insurance carrier may also continue to make periodic inspections and water flow tests.
3. Perform hydrostatic tests for underground water mains with pressures operating at less than 125-psi (8.6-gars). The normal interval for testing is five-years.
4. At facilities that have been idled, continue all appropriate testing, recharging, maintenance, etc. of the fire extinguishers, hose, and other portable fire protection equipment.
5. Strictly control cutting and welding operations. Do not allow hot work operations without using the Tokio Marine Hot Work Permit system under the supervision of facility security personnel assigned to a fire watch.

II. Resume Operations

A. Fire Protection Systems

1. A day or two before an idle facility resumes operations, perform a regular weekly inspection of fire protection equipment.
2. Give special attention to drain tests, the fire pump, gravity tank, reservoir, all control valves, fixed foam and carbon dioxide devices.

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3. If the shutdown or idle production period has been lengthy, arrange for a manufacturer's inspection of special extinguishing systems (clean agent gas, wet/dry chemical, and foam devices).
4. Do not resume facility production until all fire protection systems and equipment in the area are operational.

B. Process Equipment

Fuel Fired Equipment (Oil, Gas, Propane)

1. Ensure the burner valves on gas equipment are in the closed position before opening the main gas valve.
2. Ventilate gas equipment thoroughly.
3. Assign experienced personnel to light-off equipment. Make sure they follow established safe procedures.
4. For electrical equipment, open the motor control switch at each machine before closing the feeder switches.

Process Piping and Vessels for Gases and Liquids

Follow established procedures for inspecting and testing piping and vessels prior to pressurization and introduction of hazardous materials. Flammable, combustible, or toxic liquids and gases are of special concern, but water and other inert materials can also pose a hazard when re-introduced to idle equipment.

1. Test piping and vessels for leakage prior to charging. Note that using an inert liquid for hydrostatic testing reduces the risk of violent mechanical failure (pressurized gases expand upon release).
2. Follow established procedures for re-charging process lines before start-up. When introducing flammable liquids or gases into systems that have been left open to atmosphere, explosive mixtures can form unless proper inert purge procedures are followed.

NOTES: Keep in mind these guidelines are general in nature. Deviations to established start-up procedures require advance approval by Corporate Risk Management teams and facility personnel.

After long-term shutdowns (>6-months), a survey by the property insurance carrier may be requested prior to resuming operations to assist with recommended good practices specific to your facility.

For assistance, please contact our Tokio Marine America Loss Control Department toll free at (888) 525-2942
Or
Email us at TMALossControl@tmamerica.com