



# COVID-19 PLANT RESTART CHECKLIST

## - FOR HEAVY MANUFACTURING -

In light of the COVID-19 virus, we would like share ideas to safely restart your plant after an extended shutdown. Our overall goal is to reduce the potential for employee injuries, equipment breakdowns, maintenance issues, fires or other unexpected events. Your local jurisdictions will alert you when it is possible to restart your operations.

Please note that this list covers the basics and is not all inclusive for your unique operations. This document also anticipates that your plant did a proper facility shutdown. Inspections of stored chemicals, flammable liquid containers and process lines should be done prior to startup. Equipment manufacturers and suppliers have specific restart procedures for equipment that has been shut down for extended periods of time. These should be in listed the operations manuals.

If your plant was not shut down in a planned manner, please consult with the equipment manufacturers for the proper restart procedures.

Please review the following:

- Housekeeping
- Restarting utilities
- Touring the building and grounds to identify new hazards or trip and fall exposures
- Evaluation of warehoused goods & stock
- Checking for fire hazards, theft or other damages
- Communication with employees on restart planning tasks
- Restarting equipment and computers in a controlled manner

One last housekeeping sweep should be done before the plant restarts. It is critical to remove rubbish, sawdust and scrap from inside the building and under or around the machines that might have been missed before the shutdown. The common areas including the parking lot, sidewalks and building interiors that the customers will frequent should be inspected for trip and fall hazards from stock that might have be moved or shifted during the shutdown. Flammable and combustible liquids containers and storage areas should be checked for leaks or other damage. Don't forget one final check in the employee break rooms, bathrooms and locker rooms to make sure they are clean and ready for use!

Power should be gradually turned on to your production equipment and nonessential areas of the plant. An employee should be monitoring the areas that the power is turned back on to identify any problems with the electrical systems, production equipment and lighting. This will allow you to observe any electrical issues and greatly reduces the potential for electrical fire. Employees returning to the production areas, machines and offices should be inspecting the immediate area for damage and monitor equipment as it is restarted.

Outside and around the buildings please unlock any external storage tanks and other vital areas for the production efforts. Survey the common areas for any trip and fall hazards and remedy the situation. Inspect and start any mobile equipment and vehicles to see that they are operating properly.

The police, fire department, utilities and the alarm company should be contacted to alert them of your restart date. Provide them with updated lists of whom the emergency contacts are for your company.

Many of your employees will be returning from extended periods away from work or were working at home. Please alert them to the restart plans and any changes in the operations or staffing at your company.

The following is a sample checklist to help in your reopening activities. It is our goal that this will help your company efficiently restart your business and help reduce the possibility of an accident or loss. If you have additional questions or concerns, Pennsylvania Lumbermens Mutual Loss Control Department can assist you.



# HEAVY MANUFACTURING PLANT RESTART CHECKLIST

PENNSYLVANIA LUMBERMENS MUTUAL INSURANCE COMPANY

**PLM is committed to your business's safety. Use this checklist to help you efficiently reopen your business and help reduce the possibility of a loss during the restart process.**

HOUSEKEEPING & SITE SAFETY:	YES	NO	COMMENTS
1. Is "No Smoking" strictly enforced?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Have combustible and flammable refuse material been removed and disposed of safely outside the building?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Have in-process materials been properly staged at the production lines, saws and other production equipment?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Have areas under machines, processes, motors and bearings been cleaned of dust and debris?	<input type="checkbox"/>	<input type="checkbox"/>	
5. Have flammable residues been removed from hoods, spray booths, ducts, ovens, floors, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	
6. Have flammables and combustibles liquids, safety containers, flammable storage cabinets and flammable storage rooms been inspected?	<input type="checkbox"/>	<input type="checkbox"/>	
7. Have bonding and grounding been checked?	<input type="checkbox"/>	<input type="checkbox"/>	
8. Are passageways free and clear?	<input type="checkbox"/>	<input type="checkbox"/>	
9. Is there an 18" clear space between sprinklers and structural members and storage? (Pay attention in the storage areas.)	<input type="checkbox"/>	<input type="checkbox"/>	
10. Are fire doors unblocked and operating freely?	<input type="checkbox"/>	<input type="checkbox"/>	
11. Has dust accumulation been removed from rafters, overhead piping, machinery, motors, breaker panels, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	
12. Has the breakroom refrigerator been cleaned out of food items and small electric appliances inspected?	<input type="checkbox"/>	<input type="checkbox"/>	
13. Have drains and sinks been inspected to make sure the P traps are filled with water to reduce the potential for sewer gas entering the building?	<input type="checkbox"/>	<input type="checkbox"/>	
14. Are passageways free and clear?	<input type="checkbox"/>	<input type="checkbox"/>	
15. Are emergency exits unlocked and passageways unobstructed?	<input type="checkbox"/>	<input type="checkbox"/>	
16. Have inspections and cleaning been completed for common areas, parking lot, and sidewalks for trip and fall hazards?	<input type="checkbox"/>	<input type="checkbox"/>	
UTILITIES, ELECTRICAL POWER & EQUIPMENT:	YES	NO	COMMENTS
1. Are security and emergency lights in service?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Are lights clean and clear of combustible materials?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Have temporary wiring and extension cords been removed?	<input type="checkbox"/>	<input type="checkbox"/>	

<b>UTILITIES, ELECTRICAL POWER &amp; EQUIPMENT (CONT.):</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
4. Has the interior of electrical panels been inspected for dust and debris buildup?	<input type="checkbox"/>	<input type="checkbox"/>	
5. Have circuits at main switchboard or electrical panels been inspected for damage or corrosion?	<input type="checkbox"/>	<input type="checkbox"/>	
6. Have disconnected circuits been reconnected?	<input type="checkbox"/>	<input type="checkbox"/>	
7. Locked outs removed after inspections?	<input type="checkbox"/>	<input type="checkbox"/>	
8. Is power available for:	<input type="checkbox"/>	<input type="checkbox"/>	
Alarm systems?	<input type="checkbox"/>	<input type="checkbox"/>	
Computers & Servers?	<input type="checkbox"/>	<input type="checkbox"/>	
Fire pump(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
Emergency elevator(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
Emergency and security cameras & lighting?	<input type="checkbox"/>	<input type="checkbox"/>	
Dry pipe valve air supply?	<input type="checkbox"/>	<input type="checkbox"/>	
9. Have small chargers, transformer(s) been inspected before use?	<input type="checkbox"/>	<input type="checkbox"/>	
10. Have small electrical items at desks and workstations been inspected before use?	<input type="checkbox"/>	<input type="checkbox"/>	
11. Have dirt and grease been cleaned from equipment?	<input type="checkbox"/>	<input type="checkbox"/>	
12. Are materials stored at least 3 feet from electrical panels and transformers?	<input type="checkbox"/>	<input type="checkbox"/>	

<b>HYDRAULIC POWER EQUIPMENT:</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
1. Has oil been checked or replaced in the unit(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Is sufficient heat maintained and monitored for:	<input type="checkbox"/>	<input type="checkbox"/>	
3. Is hydraulic oil stored in a safe place and undamaged?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Have the gauges been checked to see that they work properly?	<input type="checkbox"/>	<input type="checkbox"/>	
5. Have hydraulic and pneumatic hoses and fittings been inspected for damage or leaks?			

<b>BOILERS, STEAM POWER, HEATING &amp; COOLING:</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
1. Is the crew experienced in "lighting off" the equipment to restart the units?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Is sufficient heat maintained and monitored for:	<input type="checkbox"/>	<input type="checkbox"/>	
Building(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
Fire pump house(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
Dry pipe valve house(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Is sufficient heat available to prevent the freezing of automatic sprinkler systems?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Are steam controls and "lift" relief valves in good operating condition and tested regularly?	<input type="checkbox"/>	<input type="checkbox"/>	
5. Is there an emergency water feed for boiler(s)?	<input type="checkbox"/>	<input type="checkbox"/>	

<b>BOILERS, STEAM POWER, HEATING &amp; COOLING (CONT.):</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
6. Is there adequate water and water treatment chemicals for the equipment?	<input type="checkbox"/>	<input type="checkbox"/>	
7. For the restarting of wood fired boilers, have screw augers or conveyors been inspected and cleaned out prior to the startup?	<input type="checkbox"/>	<input type="checkbox"/>	
8. Have the drip points been drained of condensation, including air receiver tanks?	<input type="checkbox"/>	<input type="checkbox"/>	
9. Have the air filters been inspected and replaced on HVAC equipment?	<input type="checkbox"/>	<input type="checkbox"/>	
10. Is there any mold or moisture damage in or around air handling equipment?	<input type="checkbox"/>	<input type="checkbox"/>	
11. Have the condensate drains and pipes been inspected for blockage or leaks?	<input type="checkbox"/>	<input type="checkbox"/>	

<b>FLAMMABLE GAS &amp; EQUIPMENT:</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
1. Have the following been unlocked and checked:	<input type="checkbox"/>	<input type="checkbox"/>	
Individual burner valves and the main valve for heating equipment?	<input type="checkbox"/>	<input type="checkbox"/>	
Main valves outside or at meters, if possible?	<input type="checkbox"/>	<input type="checkbox"/>	
Power to outside storage tanks and pumps?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Are cylinders at manifolds properly connected?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Have welding gas cylinders had the regulators and hoses properly reattached?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Have portable cylinders in main building(s) been returned and secured in a safe manner?			

<b>FLAMMABLE LIQUIDS AND EQUIPMENT:</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
1. Have the valves been opened and inspected?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Have discharge valves on butane or propane storage tanks been inspected?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Have pumps supplying fuel oil been tested and monitored?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Have liquids been safely returned to dip tanks, cleaning tanks, mixing tanks, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	
5. Have all unused liquids been relocated to safe storage areas?	<input type="checkbox"/>	<input type="checkbox"/>	
6. Have liquids that been moved to production been stored in proper safety containers, have covers sealed tightly to prevent vapors from leaking, and consist of only a day's supply?	<input type="checkbox"/>	<input type="checkbox"/>	
7. Have grounding or bonding wires and connections been checked?	<input type="checkbox"/>	<input type="checkbox"/>	
8. Have exhaust systems been inspected and tested for proper operations?	<input type="checkbox"/>	<input type="checkbox"/>	
9. Have pumps and feed lines been inspected for proper operations.	<input type="checkbox"/>	<input type="checkbox"/>	

<b>SECURITY &amp; PROPERTY PROTECTION:</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
1. Has the police department been notified of the opening?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Will standard recorded hourly watch rounds be maintained 24 hours a day?	<input type="checkbox"/>	<input type="checkbox"/>	

<b>SECURITY &amp; PROPERTY PROTECTION (CONT.):</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
3. Do watch routes adequately cover the plant?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Are watchpersons familiar with the plant layout?	<input type="checkbox"/>	<input type="checkbox"/>	
5. Are watchpersons familiar with the emergency plans for the plant?	<input type="checkbox"/>	<input type="checkbox"/>	
6. If no watch is being done, have your designated employees periodically check on the building and grounds?	<input type="checkbox"/>	<input type="checkbox"/>	
7. Are there adequate, operating phone(s) available?	<input type="checkbox"/>	<input type="checkbox"/>	
8. Are emergency numbers at each phone?	<input type="checkbox"/>	<input type="checkbox"/>	
9. Are all buildings and fences secured and locked as needed?	<input type="checkbox"/>	<input type="checkbox"/>	
10. Is security lighting provided and maintained inside and outside of building(s)?	<input type="checkbox"/>	<input type="checkbox"/>	
11. Have security camera systems been checked that video recording is working properly?	<input type="checkbox"/>	<input type="checkbox"/>	
12. Have you taken digital pictures of the interior, exterior of the building and grounds for recordkeeping?	<input type="checkbox"/>	<input type="checkbox"/>	
13. Have steps been taken to clear debris from the roof, gutters and drains to prevent water, snow and ice buildup?	<input type="checkbox"/>	<input type="checkbox"/>	
14. Have you surveyed pipes and process lines for any damage from freezing before refilling or pressurizing them?	<input type="checkbox"/>	<input type="checkbox"/>	
15. Have actions been taken to remove items that prevent interior or exterior pipes freezing? This includes removing insulation, antifreeze and heat tape, from the pipes.	<input type="checkbox"/>	<input type="checkbox"/>	

<b>FIRE PROTECTION:</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
1. Has the fire department been notified of the opening?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Are all hydrants, hose equipment, hand extinguishers, fire pumps, etc. in operating order?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Are there adequate fire extinguishers available and easily accessible?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Have key personnel been trained on the plant's emergency response plan?	<input type="checkbox"/>	<input type="checkbox"/>	
5. Is there a system set up for regular checking of all fire protection/detection equipment?	<input type="checkbox"/>	<input type="checkbox"/>	
6. Has the company resumed periodic inspections of fire and safety equipment and systems?	<input type="checkbox"/>	<input type="checkbox"/>	

<b>CUTTING, WELDING &amp; GRINDING:</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
1. Is any heat, spark or flame producing work being done?	<input type="checkbox"/>	<input type="checkbox"/>	
If yes, will hot work permits be issued and followed?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Will there be any cutting and welding done prior to the restart?	<input type="checkbox"/>	<input type="checkbox"/>	
If yes, a "HOT WORKS PERMIT" system must be followed.	<input type="checkbox"/>	<input type="checkbox"/>	

<b>MOBILE EQUIPMENT &amp; VEHICLES:</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
1. Has mobile equipment been secured in locked and fenced area(s)?	<input type="checkbox"/>	<input type="checkbox"/>	

<b>MOBILE EQUIPMENT &amp; VEHICLES (CONT.):</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
2. Have fuel tanks been filled and equipment inspected?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Have batteries been reinstalled and tested?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Have you trained your employees to follow manufacturer's recommendations for electric forklift battery charging stations and electrolyte refilling? Certain forklift batteries create hazardous and explosive gases from extended charging or overcharging of the batteries. Battery fluid levels should be checked and filled following proper safety procedures.	<input type="checkbox"/>	<input type="checkbox"/>	
5. Have ignition keys been secured?	<input type="checkbox"/>	<input type="checkbox"/>	
6. Are items stored in plain view of the street and near security lighting?	<input type="checkbox"/>	<input type="checkbox"/>	
7. Have high dollar items been removed from plain view in your vehicles and equipment to reduce theft?	<input type="checkbox"/>	<input type="checkbox"/>	
8. Has all mobile equipment been inspected by the equipment operators before use and needed repairs made?	<input type="checkbox"/>	<input type="checkbox"/>	

<b>SPECIAL ACTIONS FOR EQUIPMENT:</b>	<b>YES</b>	<b>NO</b>	<b>COMMENTS</b>
1. Have measures to protect equipment requiring special restart procedures been provided?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Has maintenance and / or operators conducted a final inspection, greasing, lubrication and fluid level checks of moving components to help prevent damage of motors, drive shafts or bearings?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Do any employees need refresher training for equipment, processes, safety activities or machine operations?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Are there enough supplies of Personal Protective Equipment necessary to operate the facilities?	<input type="checkbox"/>	<input type="checkbox"/>	

*\* The information and suggestions contained in this guideline have been developed from sources believed to be reliable. PLM Loss Control Representatives are available to assist you in your efforts to develop an effective restart program. However, PLM accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations or for the ultimate effectiveness of a restart program developed based upon the material presented in this guideline. Please consult your local municipality for specific reopening guidelines.*