

# Pre-opening Extended Checks for Rides and Attractions

March 2021



**IAAPA**<sup>®</sup>

The Global Association  
for the Attractions Industry

## Disclaimer:

*Note: This is not an exhaustive listing and does not address every operational consideration for all amusement rides or devices. Each amusement ride or device is unique, and these best practices may not apply to all types of equipment. Owner/Operators are responsible for the safety of their own amusement rides and devices. IAAPA assumes no responsibility for safe operation but offers these best practices to members for consideration.*

# INTRODUCTION

As parks and attractions reopen in 2021, they will be presented with many challenges and hurdles due to the extended periods of closure unlike anything our industry has experienced in modern times.

This white paper is by design intended to provide inspiration and suggested guidance to help enable a safe and efficient transitional process from Covid closure to successful and safe re-opening of your rides and attractions.

IAAPA has also published Covid-19 Reopening Guidance for opening attractions. This guidance can be found on this link: [IAAPA.org/document/27646](https://iaapa.org/document/27646)

Parks and attractions tend to fall into two basic categories of seasonal operations and year-round operations, this guidance could indeed be relevant to both category types.

Re-opening a park or attraction after an extended closed period of time, that could have been up to or even over 12 months, will present the owners and operators with a unique set of new challenges in re-opening the parks and attractions and welcoming your guests safely back.

## **DOCUMENT INDEX**

- 1. Ride and Attraction Manufacturer Guidance**
- 2. Ride and Attraction Preparation**
- 3. Examples of Pre-cycle Processes**
- 4. Ride Cycling**
- 5. Annual Inspection, Routine Maintenance, and Planned Preventative Maintenance (PPM) Schedules**
- 6. Inhouse Documentation**
- 7. Training and Competency**
- 8. Third-party Inspection Program**
- 9. Standards and Regulations**
- 10. Ensuring Safe Buildings and Facilities**
- 11. Important Considerations**

## 1. Ride and Attraction Manufacturer Guidance

[IAAPA.org/marketplace](http://IAAPA.org/marketplace)

Do not hesitate to contact the ride manufacturer or supplier for guidance and or advice on preparing a ride after an extended closed period.

This guidance would be based upon inspection and maintenance processes as well as ride preparation during these extended closed periods and bringing them back online.

For many parks, in particular seasonal operations, this was not a routine winter shutdown with parks and rides lying dormant for periods of time that could be 10 to 14 months or more.

## 2. Ride and Attraction Preparation

- Extended shutdown period for Rides and Attractions
- Maintenance
- Commissioning process

Rides and attractions are just like many other forms of mechanical and electrical devices and need to be operated and run regularly as well as be maintained properly to ensure peak performance.

Issues that may arise could be as simple as flat spots on coaster wheels to moisture in a compressed air system. Rides and sub-systems need to be run and operated regularly or properly prepped for extended closure.

As we prepare ride and attractions for re-opening, we need to conduct detailed preparations, checks, and inspections to ensure the rides and ancillary systems are brought back online in a safe and efficient manner.

Checklists and procedures geared toward attractions that have been shut down for a considerable amount of time should be created and followed by the technical and operations teams to bring the rides and attractions back online after this extended closed period.

### 3. Examples of Ride Pre-cycle Processes

Rides with water: Water without movement/circulation or that uses natural water sources can provide additional risks by stagnation. Test, refresh, or treat your water system as needed following local guidelines.

Even with parks closed, nature continues to flourish and grow therefore ride enclosure areas and ride safety envelopes must be rechecked and verified for clearance standards.

Pay particular attention to coaster tracks for tree, branch, and shrub growth (also animal nesting) into the safety envelopes.

Electrical, hydraulics, and pneumatic systems can be affected by animal damage (hoses, electrical supply).

Electrical and control cabinets should be inspected for animal presence and signs of nesting.

Fuel in powered generators (emergency generators) should be checked for contamination and potentially be drained with safe disposal of the fuel.

Re-visit your lubrication schedule and consider extra lubrication to refresh the supply to critical parts (always remove excess lubrication).

Emergency light systems (including emergency exits) that rely on battery systems should be closely checked to ensure the batteries continue to have strong values and systems are free from excess condensation.

Check your programming logic control systems (PLC) and ensure you have software and code backup. Also, on the same systems it is a good idea to clean or replace air filters.

Where PLCs and other systems rely on Uninterruptable Power Systems (UPS), those units, including batteries, should be checked and tested.

Compressor checks should be sure drive chain has freedom of movement and the lubricating oil level is at proper setting. The condition should not appear to be emulsified or treacle-like; this situation will be visible on the gauge or dipstick.

Sample and test the oil within hydraulic systems and gearboxes.

Oil heaters for compressors and gearboxes can certainly assist during start up programs.

In both hydraulic and air systems ensure valves operate properly (open/close) before putting under pressure. Also check for proper operation of pressure relief valves.

Attention should be paid to structural elements on both rides and vehicles. Items to check for include corrosion and frost/freeze damage.

Check the operation of all emergency exit doors and ensure pathways/egress routes are free and clear.

Evacuation equipment and procedures should be practiced and recorded.

Attraction safety systems such as shotgun gates, pressure pads, ride controls, CCTV, ride track speakers, etc. should be tested and in proper working condition.

Like any piece of equipment that is non-operational for extended periods you should bring it back online in a managed form. Allow system to run for longer warm up periods before engaging load and allow the oil to get to the right parts of the system that may be dry.

Revisit your spare parts condition and inventory.

Check and ensure validity of inspection cycles/dates for key safety equipment such as personal protective equipment (PPE), roof safety points, and fall protection systems.

It is important to remove moisture from all electrical and electronic appliances and devices (such as electrical panels, motors, frequency converters, PLCs, and other electronic boards) before energizing them.

During a long period of inactivity, dirt, moisture, and damp dirt can be present in all these appliances and devices. You will need to perform a cleaning and drying procedure to remove dirt and moisture, for example with dry compressed air, hot air, or both.

***Checks in the form of re-commissioning starts at the beginning of the queues and ends at the ride exit gate.***

## 4. Ride Cycling

During these long-closed periods many parks and attractions have implemented a limited personnel ride cycle and systems operation plan.

These plans include team members returning to the parks or attractions with the intention of cycling the critical ride systems, working in conformity with and following national or regional coronavirus rules within the workplace.

Conducting these ride and systems cycles certainly will assist when bringing the rides and attractions fully back online.

Employee safety during these sessions and site returns is paramount therefore it is always important to ensure safe systems of work are implemented for these activities including lone working protocols, for example.

Depending on ride type and other factors (manufacturer and inspection body guidance and requirement) you may wish to consider cycles both with and without loads.

## 5. Annual inspection, routine maintenance, and planned preventative maintenance (PPM) schedules

Many parks, specifically seasonal operators that did not open or only had the opportunity to open only for a limited period in 2020 have created the question and debate regarding what applies to annual inspection and planned preventative maintenance (PPM) schedules and what they should look like.

Many attractions were unable to conduct their annual strip down, inspection, and PPM schedule in 2020. Others worked with inspection bodies and manufacturers to determine an alternative strip, and inspection, program based on ride cycles from the 2020 operational period.

Always consult with the ride manufacturer for guidance and direction on these processes and schedules

## 6. In-house documentation

Most in-house ride and attraction documentation programs are reviewed on an annual basis, to ensure they remain valid to the operation.

It is key that this process be undertaken prior to your re-opening to help allow you to anticipate changes to your current operations procedures.

As an operator you should make yourself aware of local requirements pertaining to Covid safe operations and adjust your operating plan accordingly. Ensure you allow enough time to adjust your documentation and training program accordingly.

## 7. Training and Competency

Maintenance and Operations

- Skills drift
- Lost competency due to change in roles
- Lost competency due to lost jobs
- Change in department structure
- Key part-time/seasonal team members not returning
- Lack of regular training and performing drills

During the closed period, you may have lost key team members from maintenance and operations due to extended furlough or business re-alignment. Staff changes may have occurred or there may be an extended absence, and training, verifying competency, and supervision will need to be planned carefully.

Seasonal parks often rely on returning operational team members. These team members may have taken on roles and jobs outside the industry during the extended closure and are no longer seeking to return to the attractions industry leaving a void in returning employees.

**It is important operators ensure all team members have the correct skills, knowledge and attitude, training, and experience before conducting work unsupervised.**



Your human resources (HR) team should also evaluate and promote team member well-being, health, wellness, and training as they re-enter your facility and workplace

## 8. Third-party Inspection Program

You will need to ensure you are scheduling and conducting inspections with those outside of your organization such as insurance, state/province, and independent company inspectors. There may be challenges due to the following:

- Scheduling challenges and demand of your staff and the inspectors
- Limited preparation time for all parties involved
- Limited capacity of such inspection entities
- Opening timetable may be compressed for due to regional and international travel restrictions

Depending on your region of operation and standards applied to your sector you may be required, as part of licensing, to have a third-party inspection body or governing agency conduct pre-operational ride inspection and functional testing.

Scheduling these inspections and the availability of the inspection groups may be challenging and depending on capacity and availability when local re-opening permission is granted.

This planning process can begin now to ensure your rides have the correct approvals for opening when you are given the green light for operations.

## 9. Standards and regulations

As you plan and prepare your rides and attractions for the phased re-opening program it is always good time to ensure you are current with the regulations and standards applicable to your operation and location:

- ASTM F24 <https://www.astm.org/COMMITTEE/F24.htm>
- EN- 13814 2019 – Pts #1, #2 and #3  
[https://standards.cen.eu/dyn/www/f?p=204:32:0:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:6134,25&cs=1C2130CDC82717E868AD11130127B86E5](https://standards.cen.eu/dyn/www/f?p=204:32:0:::FSP_ORG_ID,FSP_LANG_ID:6134,25&cs=1C2130CDC82717E868AD11130127B86E5)

- Additional standards/regulations required for your attraction and location.

Remember regulatory requirements could have changed therefore ensure you are aware and adjust your program as needed (for instance, inspection filing processes could have changed).

## 10. Ensuring Safe Buildings and Facilities

The focus of this document is rides and attractions and little has been included regarding buildings and other facilities such as fire alarm systems, water supply, and heating, ventilation, and air conditioning (HVAC) for example.

It is important to include all operational facilities in your plans and strategy to safely re-open your park or attraction in a structured, safe, and controlled manner.

Ensure safety compliance for any additions or changes made to facilities due to COVID protocols (barriers, special equipment, etc.)

### Example list only:

- HVAC systems – consider filters and air flow
- Water systems – (hot and cold) flow/flush, treatment and testing for contamination such as legionella. For natural bodies of water include bacterial testing.
- Alarm systems such as fire detection and suppression systems
- Boiler/pressure vessel required inspection processes
- Communications and monitoring systems such as closed-circuit television (CCTV), public address (PA) systems on and within rides, and queue-lines and buildings
- Equipment and surfaces (including walkways, queue rail and any items that could be touched by a guest or team member) should be in proper working condition
- Other building life safety systems such as lighting, evacuation routes, signs, doors, and door hardware should be checked for compliance functionality

## 11. Important Considerations

Ensure that all inspection processes (internal/external) and licensing are current and valid.

Ensure all maintenance processes and PPM schedules are current and up to date.

Ensure relevant documentation is valid and check programs, standard operating procedures (SOPs), risk assessment protocols, and training records.

Revisit your training program for returning employees.

Consider a re-commissioning schedule and program for each ride and attraction as you bring them back online.

Consult with the ride and attraction manufacturer.

Engage with your third-party ride inspection team.

Revisit the IAAPA COVID 19 [Reopening Guidance document](#) to benchmark your operational practices.

**POG03.07.21**