



**Global Process
Management Ltd.**

FREE MANUFACTURING TOOL

FAT | SAT | STARTUP | RAMP-UP

Commissioning Readiness Checklist

A practical 50-point guide to reduce startup risk before it affects your production schedule.

Designed for manufacturing project teams

Use this guide to align engineering, operations, maintenance, OEMs and site teams before FAT, SAT and startup execution.

Commissioning

Field Engineering

Remote Support

Productivity



Why Commissioning Preparation Matters

Successful startups begin long before equipment arrives on site. A structured readiness process helps teams reduce delays, control risk, and reach stable production faster.

Commissioning is where engineering, equipment, controls, utilities, documentation and people must come together. When readiness gaps are discovered late, teams face avoidable delays, unresolved punch lists, quality issues and production instability.

GPM perspective

The goal is not only to start the machine. The goal is to reach safe, repeatable and measurable production performance with fewer surprises during FAT, SAT and ramp-up.



Reduce startup delays

Identify missing requirements, site gaps and unresolved technical risks before they impact the project schedule.



Minimize punch list items

Create a clear issue log, assign owners and close critical actions before installation and production trials.



Improve ramp-up performance

Track production indicators early so teams can stabilize throughput, quality and equipment availability.



Align project teams

Connect engineering, operations, maintenance, OEMs and contractors around the same startup priorities.

How to use this checklist

1

Review scope

2

Assign owners

3

Validate readiness

4

Track closure



Pre-Commissioning Checklist

Before FAT, confirm that the engineering foundation, control logic, documentation and team ownership are in place.



Engineering & Design

- ☐ Mechanical drawings approved
- ☐ Electrical drawings approved
- ☐ P&IDs and utility requirements confirmed
- ☐ Safety review completed
- ☐ Open technical risks documented



Controls & Software

- ☐ PLC software loaded and backed up
- ☐ HMI screens reviewed
- ☐ I/O list verified
- ☐ Alarms and interlocks defined
- ☐ Recipes or product parameters prepared



Documentation & Planning

- ☐ FAT agenda agreed
- ☐ Test protocols prepared
- ☐ Punch list template ready
- ☐ Startup plan drafted
- ☐ Escalation path defined



People & Responsibilities

- ☐ Project lead assigned
- ☐ OEM contacts confirmed
- ☐ Site operations representative assigned
- ☐ Maintenance support identified
- ☐ Decision-makers available for FAT and SAT



Key outcome

Arrive at FAT with fewer surprises, clearer ownership and better coordination across all teams.



FAT Readiness

Factory Acceptance Testing should verify functionality, safety and documentation before equipment ships to site.



1. Mechanical Function

- ☐ Machine assembled for testing
- ☐ Motors and drives tested
- ☐ Sensors mounted and checked
- ☐ Product path verified
- ☐ Known defects logged



2. Electrical & Controls

- ☐ I/O testing completed
- ☐ PLC sequence tested
- ☐ HMI functions reviewed
- ☐ Alarm handling verified
- ☐ Recipe or format change logic tested



3. Safety & Compliance

- ☐ Emergency stops tested
- ☐ Guarding and interlocks verified
- ☐ Safety devices validated
- ☐ Lockout considerations reviewed
- ☐ Customer safety comments resolved



4. Documentation & Acceptance

- ☐ FAT protocol signed off
- ☐ Punch list created
- ☐ Priority actions assigned
- ☐ Photos or records captured
- ☐ Shipping approval confirmed



Best practice

Use FAT to reduce site surprises, not just to demonstrate machine motion.



Site Readiness

Before equipment arrival and SAT, confirm that the site, utilities, tools and team support are ready.



Utilities & Infrastructure

- ☐ Power available and isolated as needed
- ☐ Compressed air available
- ☐ Network drops installed
- ☐ Water or process utilities confirmed
- ☐ Drainage and ventilation checked



Installation Area

- ☐ Machine footprint cleared
- ☐ Foundations or supports prepared
- ☐ Access routes confirmed
- ☐ Lifting equipment scheduled
- ☐ Safety barriers planned



Support Materials & Spares

- ☐ Critical spare parts available
- ☐ Consumables stocked
- ☐ Special tools on site
- ☐ Calibration equipment available
- ☐ Backup media stored safely



Team Readiness

- ☐ Operators assigned
- ☐ Maintenance coverage planned
- ☐ Shift support agreed
- ☐ Contractors booked
- ☐ Communication plan shared



Readiness tip

Many startup delays are caused by simple site gaps. Confirm utilities, access and support resources early.





SAT Execution

Site Acceptance Testing should confirm that installed equipment is safe, connected and ready for controlled production trials.



1. Installation Verification

- ☐ Equipment mechanically installed
- ☐ Electrical connections completed
- ☐ Utilities connected
- ☐ Guards and safety devices fitted
- ☐ As-built differences recorded



2. Dry-Run & I/O

- ☐ Axis or drive motion checked
- ☐ I/O confirmed at site
- ☐ Manual functions tested
- ☐ Alarms verified
- ☐ Communication with upstream/downstream assets tested



3. Production Trial

- ☐ Product or material available
- ☐ Initial setup completed
- ☐ Trial output recorded
- ☐ Quality checks completed
- ☐ Performance limits documented



4. Issue Closure & Handover

- ☐ Open issues prioritized
- ☐ Owners assigned
- ☐ Temporary workarounds documented
- ☐ Operator training completed
- ☐ SAT acceptance signed or conditional actions agreed



Success measure

A good SAT ends with a controlled handover, not just a short machine run.



Startup Success Indicators

Once startup begins, measure early performance indicators to stabilize the line and reduce avoidable losses.



1 OEE

Track overall equipment effectiveness as stability improves.



2 Downtime

Review major stops, recurring faults and response time.



3 Throughput

Measure actual output against planned production rate.



4 Quality / Rejects

Monitor startup scrap, defects and first-pass quality.



5 Punch List Closure

Track open issues and closure pace every day.



6 Training Completion

Confirm operators and maintainers can run the asset safely.

What good ramp-up looks like



Fewer repeated faults



Stable throughput



Lower reject rates



Clear ownership of open actions



Questions to ask daily



- Where are we losing time?



- Which issues repeat most often?



- What blocks stable throughput?



- What action must be closed today?



**Global Process
Management Ltd.**

Need Commissioning Support?

Global Process Management helps manufacturers and OEMs deliver projects, commission assets, support operations, and improve manufacturing performance.



● **FAT / SAT Support**

Structured testing, acceptance and issue management.



● **Startup Management**

Ramp-up planning, execution support and readiness tracking.



● **Field Engineering**

On-site technical expertise for complex installations.



● **Punch List Management**

Issue logging, prioritization, ownership and closure.



● **Remote Troubleshooting**

Secure remote assistance to reduce response time.



● **Productivity Improvement**

OEE, downtime, changeover and performance support.



● **Digital Visibility**

Manufacturing data visibility through GPC.



● **Post-Installation Support**

Ongoing operational support after equipment handover.

Ready to reduce commissioning risk?

Use this checklist as a planning aid. Connect with GPM for commissioning, field engineering, remote support and productivity improvement resources.

Visit: globalprocess.co.nz

Adapt checklist items to your site standards, safety procedures and project requirements.