General Manufacturing

Layered Process Audit (LPA) Deployment Template

Standard: ISO 9001:2015

45	3	60 min
Total Questions	Audit Layers	Total Duration

Layer	Role	Questions	Time	Frequency
L1	Production Operator	20 Q	25 min	Daily — each production shift
L2	Supervisor / Quality Lead	15 Q	20 min	Weekly — all production areas
L3	Plant Manager / Quality Manager	10 Q	15 min	Monthly — quality system review

Complete all three layers for comprehensive process verification. Each layer builds upon the previous, providing systemic quality assurance from operator to engineering leadership.

LAYER 1: OPERATOR AUDIT

20 Questions | 25 min | Daily — each production shift

ID	Question & Criteria	Response			
A1	**Work Order & Traveler Match** Work order number, part number, revision, and quantity on traveler match the shop order and physical part. Production schedule alignment verified.	Y	N	N/A	Notes
A2	**Raw Material Certification** Raw material certificates of conformance (C of C) present. Heat or lot numbers recorded on traveler. Material grade matches drawing callout. No unapproved substitutions.	Y	N	N/A	Notes
A3	**Drawing Revision Control** Current revision drawing at workstation. Matches revision listed on traveler. Superseded drawings removed from area. Engineering changes reflected.	Y	N	N/A	Notes
A4	**Part Status Identification** In-process parts labeled with status: WIP, Hold, Scrap, or Inspection Required. Traveler signed at all completed prior operations. No unlabeled or ambiguous parts.	Y	N	N/A	Notes
A5	**Work Instruction Currency** Work instructions posted at station match the current revision referenced on the traveler. Operation sequence correct. Special process notes included.	Y	N	N/A	Notes
A6	**Tooling & Fixture Condition** Correct tools and fixtures per BOM/traveler. Tools inspected for damage, wear, or contamination. Tool storage proper. Inserts changed per tool life schedule.	Y	N	N/A	Notes
A7	**Machine Setup & Readiness** Machine cleaned, warmed up, and verified for current job. Prior job cleared. Coolant level, air pressure, and hydraulic pressure within spec. Guards in place.	Y	N	N/A	Notes
A8	**First-Piece / Setup Verification** Setup sign-off completed before production run. First piece fully inspected and approved. Results recorded. No production until setup approved.	Y	N	N/A	Notes
A9	**SPC Chart Active & Current** Control chart posted at station. Last 5+ readings plotted. Process in statistical control — no Western Electric OOC signals unaddressed.	Y	N	N/A	Notes
A10	**Critical Dimension Check** All critical dimensions verified per Control Plan frequency. Correct gauge used. Results within spec and recorded on inspection sheet or in system.	Y	N	N/A	Notes
A11	**Attribute Gauge Usage** Go/No-Go gauges within calibration. Used correctly — not forced. Gauge surfaces clean. Stored properly to prevent damage between uses.	Y	N	N/A	Notes
A12	**Variable Measurement Technique** Measuring tool calibrated and within due date. Proper technique applied. Part clean and at temperature. Measurement repeated as required. Results logged.	Y	N	N/A	Notes
A13	**In-Process Inspection Records** All required in-process checks recorded: operator ID, time, quantity, measured values. No skipped entries. End-of-shift inspection summary completed.	Y	N	N/A	Notes
A14	**Traceability Maintained** Serial numbers, lot codes, or operator stamps captured at each operation. Traveler traceability maintained through to current operation without gaps.	Y	N	N/A	Notes

A15	**Surface Finish Acceptable** Surface condition meets drawing callout. No tool marks, scratches, corrosion, or contamination. Visual standard posted and referenced for subjective evaluations.	Y	N	N/A	Notes
A16	**Edge Condition & Deburr** All edges deburred per drawing. Chamfers and radii within specification. No sharp edges or burrs that exceed drawing tolerance or create handling risk.	Y	N	N/A	Notes
A17	**Feature Geometry Verification** Holes, threads, and key features checked: size, pitch, depth, and position within drawing tolerance. Gauge or CMM results recorded.	Y	N	N/A	Notes
A18	**Part Cleanliness** Parts free of chips, coolant, oil, and debris. Clean parts stored in approved containers. No loose chips in finished goods containers.	Y	N	N/A	Notes
A19	**Documentation Completeness** All traveler fields populated at completed operations: operator ID, machine ID, timestamp, quantity, inspection results. No blank required fields.	Y	N	N/A	Notes
A20	**Nonconformance Handling** Nonconforming parts segregated immediately with NCR tag. Quality notified. Production stopped at that station until root cause and disposition determined.	Y	N	N/A	Notes

■ *Note: This template is designed for broad applicability. Customize Section C questions to match your specific product Control Plan characteristics and industry requirements.*

LAYER SCORE	___ / 20	AUDITOR	_____	DATE	_____

LAYER 2: SUPERVISOR / QUALITY AUDIT

15 Questions | 20 min | Weekly — all production areas

ID	Question & Criteria	Response			
F1	**L1 Audit Completion Rate** Confirm >95% of planned L1 audits completed this week across all production areas and shifts. Gaps documented and root-caused.	Y	N	N/A	Notes
F2	**Audit Schedule Adherence** Audits performed per rotation schedule. All shifts, lines, and areas included. No consecutive shifts uncovered. Weekend and off-shift coverage verified.	Y	N	N/A	Notes
F3	**Finding Pareto Analysis** Top 3 finding categories identified from this week's L1 data. Pareto chart current. Findings stratified by area, shift, and product for targeted improvement.	Y	N	N/A	Notes
F4	**Repeat Finding Rate** Same finding at same station recurring < 10% of weekly total. Repeat findings auto-trigger CAPA review. Chronic repeat findings presented at weekly quality meeting.	Y	N	N/A	Notes
F5	**Critical Finding Escalation** Safety issues, product holds, or customer-impact findings escalated to Quality Manager and Plant Manager within 4 hours. Escalation log reviewed and complete.	Y	N	N/A	Notes
G1	**Root Cause Analysis Quality** RCA documented for all repeat findings. 5-Why or Ishikawa method used. Root cause at process or system level — not 'operator error' without deeper analysis.	Y	N	N/A	Notes
G2	**CAPA Assignment & Tracking** Corrective actions in CAPA system with owner, target date, and verification plan. Past-due CAs reviewed and re-prioritized or escalated.	Y	N	N/A	Notes
G3	**30-Day Effectiveness Check** Prior CAs re-audited at 30 days. Finding recurrence rate confirms improvement. CAs re-opened if issue returns within verification window.	Y	N	N/A	Notes
G4	**Lessons Learned Deployment** Findings and fixes communicated to similar processes, machines, and shifts. Lessons entered in shared system. Horizontal improvements documented.	Y	N	N/A	Notes
H1	**Control Plan vs. Actual Process** Spot-check confirms actual production process matches approved Control Plan. Any deviations are documented engineering changes — not informal workarounds.	Y	N	N/A	Notes
H2	**Gauge R&R; Study Currency** Gauge R&R; studies for critical measurement systems within 12 months. Studies passing (< 30% for Critical). Studies available on request.	Y	N	N/A	Notes
H3	**Sampling Frequency vs. Risk** Inspection frequency matches current defect history and risk level. High-defect or new-product areas receiving increased inspection until stable.	Y	N	N/A	Notes
H4	**Operator Competency Verified** Operators on floor trained and certified for their current stations. Cross-training matrix current. New operators on supervised period.	Y	N	N/A	Notes
I1	**Nonconforming Material Segregation** All hold-tagged material in designated quarantine area. No mixing with conforming product. Hold log reconciled. Dispositions in progress or complete.	Y	N	N/A	Notes

		Y	N	N/A	Notes
I2	**Customer Escape Status** No customer returns or field complaints this week. If any: 8D initiated, customer notified, containment active, interim action documented.				

LAYER SCORE	___ / 15	AUDITOR	_____	DATE	_____

LAYER 3: ENGINEERING / MANAGEMENT AUDIT

10 Questions | 15 min | Monthly — system review

ID	Question & Criteria	Response
J1	**Process Capability — Critical Characteristics** All critical characteristics maintaining Cpk ≥ 1.33. SPC dashboard reviewed with management. Characteristics below threshold have engineering improvement plans.	Y N N/A Notes
J2	**Capability Trend Analysis** No Cpk degradation > 20% over trailing 3 months. Tool wear and process drift monitored. Predictive alerts in place for key process parameters.	Y N N/A Notes
J3	**OOC Detection & Response** Control chart review confirms all out-of-control signals detected and documented reaction plans executed. No silent OOC events found in audit.	Y N N/A Notes
J4	**Measurement System Health** No overdue Gauge R&R;, calibration, or MSA studies. Calibration system reviewed. Out-of-tolerance findings investigated for product impact.	Y N N/A Notes
K1	**Control Plan Currency** Control Plan updated for all process changes, corrective actions, and improvement activities this period. Revision date current. Team review completed.	Y N N/A Notes
K2	**Engineering Change Implementation** All released ECOs implemented on floor: drawings current, WIs revised, operators briefed, first articles run where required. Change closure log clean.	Y N N/A Notes
K3	**FMEA Risk Reduction** PFMEA reviewed this month. High-RPN items have active mitigation plans. RPNs trending downward. FMEA updated after every significant escape or process change.	Y N N/A Notes
L1	**Continuous Improvement Activity** At least one documented improvement completed this month with quantified results. Results posted on CI board and presented at management review.	Y N N/A Notes
L2	**LPA Program Health** LPA scores across all areas stable or improving over 90-day trend. Low-scoring areas have improvement plans with assigned owners and milestones.	Y N N/A Notes
L3	**Supplier Performance Review** Supplier incoming quality data reviewed. SCARs issued for supplier-caused escapes. Preferred supplier list updated. High-risk suppliers scheduled for audit.	Y N N/A Notes

LAYER SCORE ____ / 10 AUDITOR _____ DATE _____

LAYER 0: LPA MATURITY SCORING & TOTAL

Questions | min |

Score	Performance Level	Required Action
100%	World Class	Document & share best practices across all lines
90–99%	Strong	Monitor for drift; schedule quarterly reviews
80–89%	Capable	Focus improvement resources on identified gaps
70–79%	At Risk	Management review within 5 business days
< 70%	Critical	Stop production; mandatory corrective action plan

TOTAL SCORE	_____ / 45	% Score	_____%

Industry-Specific Notes

General Manufacturing LPAs support ISO 9001:2015 clause 8.5 (Production & Service Provision), 9.1 (Monitoring & Measurement), and 10.2 (Nonconformity & Corrective Action). This template is designed as a universal baseline applicable across machining, fabrication, plastics, packaging, and light assembly operations. Customize Section C inspection questions to match your specific product characteristics and Control Plan requirements. The LPA program should be integrated with your ISO 9001 internal audit schedule and management review inputs. LPA findings are a key input to your organization's Corrective Action / Preventive Action (CAPA) process.

Audit Sign-Off

Auditor Name	Signature	Date Completed
Reviewed By	**Title / Role**	**Next Audit Due**