

CQI-8

Layered Process Audits Guideline

2nd Edition

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The **Catalyst** for Peak Performance



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Layered Process Audits

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The catalyst for peak performance

FOREWORD

This guideline will help you utilize Layered Process Audit (LPA) as a tool to take your organization to the next level of performance.

At its core, LPAs are verifications that the most important standards and controls are in place. In a larger sense, LPAs provide constant attention to the core processes of an organization -- by all levels of management. A well deployed LPA system drives a culture of accountability, process control and continuous improvement. The result of this minimal effort is tighter alignment toward organizational goals – which is a key to success in this highly competitive global marketplace.

If you've implemented LPAs but consensus in your organization is that it is non-value added, we believe aspects of this manual will help you see LPA in a new light. Debugging your existing LPAs should start with a review of the questions on your check sheets. In Section 4 of the guideline, we share techniques for writing questions that are value-add, rather than 'classical' quality checks. Other aspects for fine-tuning your LPAs can be found in Section 6.

If you're new to LPAs, you can create LPAs that impact Key Performance Indicators (KPIs) such as Safety, Quality, Cost, Delivery and Morale. Since reaching established goals for these measures is in the interest of everyone in an organization, it makes sense that all levels, or layers, of management participant in LPA deployment and on-going audits.

The critical success factors for a value-add LPA are addressed in this revision of CQI-8:

- Top management support
- Communication of the value to employees
- Impactful audits

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1 INTRODUCTION

1.1 LPA Definition and Purpose

Layered Process Audits (LPAs) are management tools used to verify that work is done according to established standards, to emphasize the importance of those standards, and to identify opportunities for continuous improvement. LPAs can be applied to verify any defined process within an organization. A process is the methodology and controls used to create a product or service. Some aspects of a process are Machines/Equipment, Materials, Methods, Manpower, and Measurement.

Nonconformances such as costly recalls, warranty issues, and customer and employee dissatisfaction are often caused by poor process control or by failure to follow the process instructions. Employees often complete process steps from memory. When necessary process changes are identified, employees must re-learn and adjust. It is very easy to return to the old, familiar methods.

LPAs are a structured way to verify that work is performed as originally intended, resulting in improved performance metrics. Because LPAs are conducted at the location where the process is being used, LPAs also facilitate ongoing two-way communication between management and the process users. These interactions strengthen trust and demonstrate shared ownership in the work being done right.

The Layered Process Audit is actually more ‘verification’ than ‘audit.’ A Layered Process Audit verifies that controls are in place and the standard process is being followed . . . and followed correctly. Because LPA is not a control but a verification of a control, it does not belong in a Process Control Plan.

When defining Layered Process Audits, it often helps to explain to personnel of all levels what Layered Process Audits are and also by explaining what they are not. The "is/is not" tool is recognized in many problem-solving disciplines. This has been applied to Layered Process Audits in Appendix A.

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2 VALUE OF THE LPA MANAGEMENT TOOL

2.1 How Will Layered Process Audits Benefit the Organization?

Effective Layered Process Audits provide management with verification of process conformance, identify areas of potential process variation, and provide opportunities for continuous improvement of Key Performance Indicators (KPIs). These outcomes can have a direct impact on the quality of the product the organization ships to the customer. Ultimately, the improvements to the organization will have a positive impact on business results.

When applied effectively, Layered Process Audits can provide specific benefits, including the following:

- Mitigating safety incidents (injury, near- accidents, lost time, etc.)
- Reducing waste
- Improving cash flow
- Improving product quality and customer satisfaction
- Reducing quality incidents (errors, scrap, rework, etc.)
- Increasing First Time Capability
- Measuring and encouraging work process standardization
- Reinforcing key or updated process steps, including safety requirements
- Increasing interaction between plant management and line operators
- Allowing first hand feedback from operators to plant management
- Enabling management to implement corrective action and pursue continuous improvement
- Institutionalizing training and process knowledge
- Reducing the overall cost of poor quality

While these are typical benefits of Layered Process Audits, some might not be applicable to every organization. Conversely, as an organization implements Layered Process Audits, additional benefits may become apparent.

3 TOP MANAGEMENT PLANNING

In nearly every case, the most effective Layered Process Audits are those that are carefully planned rather than hastily put together without a clear direction. A cross-functional approach to planning, with the involvement and support of management, is critical to the success of any LPA program. When planning an LPA program, there are several things that need to be considered:

1. LPA Process Owner – What individual will be responsible for the LPA program? Who ensures that the audit is conducted and that the results are reviewed and acted upon?
2. LPA Planning Team – What departments and individuals will need to take part in planning the LPA program?
3. LPA Scope – What areas or processes will need LPAs conducted?
4. Customer-Specific Requirements – What customer LPA requirements should the team be aware of when developing the LPA program?
5. Process Prioritization – What areas or processes show the biggest opportunities for improvement? Which LPAs should be implemented first?
6. Audit Layers – What levels of the organization will be involved in conducting the LPAs?
7. Development of Audit and Reporting Templates – What will be the format for conducting the LPAs? For reporting results and actions?
8. Developing Metrics for LPA Effectiveness - What metrics or indicators will be monitored to ensure the LPA program is effective?
9. LPA Procedure – What needs to happen in order to implement the LPAs? Who will do that? What formats and report formats will be used?
10. Stakeholder Buy-in – Are all of the involved departments committed to the LPA program? Is there Top Management support and commitment? How is this support and commitment demonstrated?

3.1 LPA Process Owner

A single individual from Top Management should be assigned overall responsibility for the Layered Process Audits. This individual serves as the program lead and is responsible for the following:

- Obtaining audit results and records from each area of the organization;
- Ensuring that responsible individuals have developed corrective actions for issues and implemented them according to schedule;
- Reporting to Top Management on the status of LPAs and implemented actions;
- Ensuring that LPA results and actions are communicated throughout the organization;
- Facilitating the addition of new processes to the LPAs;
- Creating, maintaining and updating, as required, the LPA procedure(s), templates, and schedules.

Because Layered Process Audits are not simply another audit to be carried out by the Quality Department, the LPA Process Owner role does not need to automatically belong to the Quality Manager. In fact, it is recommended that the organization's Operations (e.g., Manufacturing) Manager be designated as the LPA Process Owner.