
Overall Equipment Effectiveness (OEE) Calculation Policy

1.0 Program Objective & Scope

The objective of this policy is to establish a standardized, data-driven method for calculating and reporting Overall Equipment Effectiveness (OEE) across all critical production assets. OEE serves as the primary metric for identifying losses in availability, performance, and quality, enabling targeted continuous improvement. This policy applies to all production lines, packaging equipment, and key process machinery within the facility. The scope includes both automated and semi-automated assets, with the goal of achieving a world-class OEE benchmark of 85% or higher, while reducing unplanned downtime and scrap rates.

2.0 Key Performance Indicators (KPIs) & Metrics

OEE is calculated as: $OEE = Availability \times Performance \times Quality$. $Availability = (Operating\ Time / Planned\ Production\ Time) \times 100$, where $Planned\ Production\ Time = Total\ Shift\ Time - Planned\ Downtime\ (breaks,\ PMs)$. $Performance = (Ideal\ Cycle\ Time \times Total\ Parts\ Produced) / Operating\ Time \times 100$. $Quality = (Good\ Parts\ Produced / Total\ Parts\ Produced) \times 100$.

Supporting metrics include: MTBF (Mean Time Between Failures), MTTR (Mean Time To Repair), and Six Big Losses (breakdowns, setup/adjustments, idling/minor stops, reduced speed, defects, startup losses). All metrics are tracked per shift, per asset, and aggregated weekly/monthly.

3.0 Roles & Responsibilities

Maintenance

Manager: Owns the OEE data integrity, ensures sensors and CMMS integrations are calibrated, reviews weekly OEE reports, and leads root cause analysis for availability losses.

Machine Operators: Record downtime events (reason codes, start/end times) in ServiceGrid or designated digital log, flag performance deviations, and participate in daily huddles to discuss OEE trends.

Plant Leadership: Sets OEE targets aligned with corporate goals, approves CapEx for automation or upgrades that improve OEE, and reviews monthly OEE dashboards to drive strategic decisions.

4.0 Program Execution & Data Collection

Data collection occurs in real-time via PLC/HMI integration or manual entry into ServiceGrid at the end of each shift. Operators log all downtime events with predefined reason codes (e.g., mechanical failure, material shortage, changeover). Planned downtime is pre-scheduled in the CMMS. Cycle times are validated quarterly via time studies. Quality data is pulled from inline inspection systems or QC lab reports. All data is timestamped and stored in a centralized database. Daily OEE calculations are automatically generated by ServiceGrid and posted on the production floor visual management board.

5.0 Review, Reporting & Continuous Improvement

Weekly OEE reviews are conducted by the Maintenance Manager and Shift Supervisors to identify top loss categories and assign corrective actions. Monthly reports are presented to Plant Leadership, highlighting OEE trends, Pareto charts of losses, and progress toward 85% target. Continuous improvement is driven through Kaizen events focused on the Six Big Losses. CapEx requests for new equipment or retrofits must include projected OEE improvement. All OEE data is archived for annual reliability audits and used to refine PM schedules and operator training programs.

Regulatory Disclaimer: This program document is a generic strategic template. The end-user assumes all liability for aligning these metrics, KPIs, and reliability frameworks with specific corporate goals and OEM engineering standards.