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| --- | --- | --- | --- | --- | --- | --- |
| TPM | Classification | Requirement | Performance To Date | October 2013 Status | MS C Prediction | XXX LRIP Prediction |
| Material Requisitions | (U) | 0 |  | N/A | N/A | Good |
| Purchase Part Receipts | (U) | 0 |  | N/A | N/A | Good |
| Kitting | (U) | 0 |  | N/A | N/A | Fair |
| Labor performance | (U) | 0 |  | N/A | N/A | Fair |
| FTTTY | (U) | TBD |  | N/A | N/A | Fair |
| Defects per Unit | (U) | TBD |  | N/A | N/A | Fair |
| Scrap, Rework and Repair | (U) | TBD |  | N/A | N/A | Fair |
| Quality Notifications per 1K hours of Direct Labor Hours | (U) | TBD | N/A | N/A | N/A | Fair |

The Production IPT will monitor the following Supply Chain Management Metrics (KTR) currently has defined and ready for use during LRIP.

For monitoring material requisitions:

* Unreleased Requisitions
* Released Requisitions
* Requisitions Released Late

For measuring performance for Purchase Part Receipts:

* Purchase Order Placement
* Supplier Delivery vs. MRP Need Date
* Purchasing
* Target Pricing

The Production IPT will also monitor the following Manufacturing Metrics (KTR) currently has defined and ready for use during LRIP. These metrics are reported weekly to (KTR’s) Cell Management and monthly to Manufacturing Executive Management.

* Scrap, Rework, Repair for Last 12 Months
* Quality Notifications per 1K Hours of Direct Labor Hours
* FTTTY By Cell and Program

**Manufacturing TPMs**

The planned manufacturing performance measures are described below.

Material requisitions are the actual material requirements generated by the Material Resource Plan (MRP) system and forwarded to the Material Acquisition group for purchase part procurement. These requisitions become purchase orders. The MRP system determines placement dates for the requisitions and provides this information to material acquisition for use in development of the placement plan. The placement plan is then used as a tool to measure performance of order placement. This is reflected in a top level plan measuring actual placements achieved on a monthly basis against the baseline planned placements. It is important to measure this performance as it can be an indicator of potential material issues. Delays in placing requirements according to plan can lead to late acquisition of material, premium dollar expenditures to expedite delivery, late kitting, and rework resultant from an out-of-process flow in manufacturing. The metric measures performance as compared to plan.

MRP purchase part receipts is the production metric used to compare supplier lead times/delivery dates to manufacturing need dates as established by the MRP system. Lead time is best expressed as the time it takes a supplier to deliver material, from the time an order is accepted to the time that item is received at (KTR). Purchase part receipts are measured and grouped into one of three categories: (1) Fit – the delivery date supports the MRP planned start assembly date, (2) overdue – the material is past due to the original delivery date and a revised delivery date needs to be provided by the supplier, and (3) No Fit – the supplier’s original or revised delivery date does not support the MRP planned start assembly date, creating a part short and possibly delaying the release/completion of that kit. This performance is one measure of material acquisition uses to rate supplier performance. Delays in delivery of material as planned can lead to unplanned expenditures to expedite delivery from another supplier, late kitting, and rework resultant from an out of process flow in manufacturing.

Kitting is the activity of issuing material from stores to the production floor in preparation for the start of an assembly process. The MRP system determines kitting dates for the assemblies and provides this information to supply chain for use in development of the kitting plan. The kitting plan is then used as a tool to measure performance of planned kit release against actual performance. This metric is used by the supply chain to measure material stores performance. Late kits will have an adverse effect to the manufacturing process.

Labor performance is a direct measure of cost performance. Every hour spent in the process is related to equivalent dollars charged to a program. By measuring labor performance throughout the manufacturing process, proactive adjustments can be made as needed to control costs. Labor is measured in two areas: Fab, Assembly, Inspection and Test (FAIT) and Support. FAIT labor performance can be measured by monitoring the completion progress and comparing it to expended cost.

First Time Through Test Yields (FTTTYs) are used to track assemblies the first time they are tested. It is important to measure yield results through test the first time an assembly is tested during production. Monitoring First Pass Yield can help reduce scrap, rework and repair of production hardware by correcting a manufacturing process, component failure or design requirement.

Defects per Unit are metrics used to track the number of defects found during the Inspection processes. The total number of defects found is compared to the total number of opportunities for defect. Defects per Unit are measured to annual manufacturing goals. Analysis of the defect data is conducted to determine root causes and to implement positive corrective actions.

Scrap, Rework and Repair are metrics capturing data on defects caught internally and dealt with by discarding or repairing the defective items. Scrap, Rework and Repair is measured in terms of dollars or hours as a percentage of manufacturing costs. Analysis of the Scrap, Rework and Repair data is used to determine root causes and implement positive corrective actions.

Quality Notifications per 1K Hours of Direct Labor Hours measures the amount of nonconformances that are created for every 1000 hours of manufacturing touch labor. This metric establishes a baseline for monitoring the quantity of nonconformances being generated and serves as a tool for analyzing both positive and negative nonconformance trends.