

Vendor Managed Inventory (VMI) Improves Planning and Reduces Lead Times

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This is the second article in a three-part series of articles regarding Cooper Power Systems' Vendor Managed Inventory program. The first article (Cooper Power Systems Provides Superior Service Through Vendor Managed Inventory) was published in the December 2006 issue of *The Line* magazine—available online at www.cooperpower.com.

The previous article noted that a major utility VMI customer was experiencing turns performance twice that of their non-VMI managed inventories, while maintaining extremely high service levels. This article will provide some detail on how the Cooper VMI program attains these superior results. Specifically, how implementing a VMI program can have a positive impact on the two normally opposing measures of service level and inventory turns. This is accomplished by using the customer's data from the VMI system to improve planning. Improved planning reduces lead times and variability, providing value to the customer.

The Power of Planning

Traditionally, the supplier forecasts demand by using historical order data and statistical models to create a basic picture of the future. Additional information used to complete the forecast includes: future customer requirements, material reservations, and planning data; local condition reports from the Cooper Power Systems sales force; regional weather and storm data; and econometric data, such as housing starts and non-residential construction data.

The customer's data on product usage to their field for installation, provided in a VMI system, is generally a more accurate forecasting input than the manufacturer's order data. When orders are placed, the order not only includes the required quantity but also the amount that is economical to order. As a result, the order is

Vendor Managed Inventory (VMI) is the process where the vendor assumes the task of generating purchase orders to replenish a customer's inventory. Well-configured VMI can successfully increase both service rates and inventory turns. Providing service means having the material there when it is needed—inventory. Turns is a measure of output versus on-hand inventory. While having inventory to support service levels should logically mean that turns has to suffer, this is not necessarily the case with VMI.

not a true picture of the demand. Order data provides an input that is in the "ball park" but not good enough. Usage data will get from the ballpark to the right section and row but maybe not the exact seat. A more accurate view of historic demand, through an understanding of customer usage, will result in a more accurate plan of future demand.

Additionally, if the customer is sharing future demand/reservation information in the VMI program, this information can also be used to improve the forecast. While no forecast is always perfect, the demand forecast will be far more accurate when past and future indicators are used.

Sharing data, by the customer with the supplier, helps to create a better view of future demand. This can help the supplier control the lead time—leading to a reduction in manufacturing lead time, which can in turn benefit the customer in terms of improved service levels and reduced inventory (improved inventory turns).

Impact on the Customer

A Shorter Lead Time Reduces Inventory

A simple order point calculation contains the quantity to be consumed during the lead time for the product, plus a safety stock value. To a customer, the lead time is an unknown variable. To the supplier, lead time is not only a known variable but, more importantly, a variable that can be controlled—with planning. Providing production, purchasing, and suppliers with an accurate estimate of demand creates a more stable lead time—a lead time that can also be greatly reduced. Therefore, a shorter lead time means a reduced order point. This means less inventory, while maintaining the same level of service.

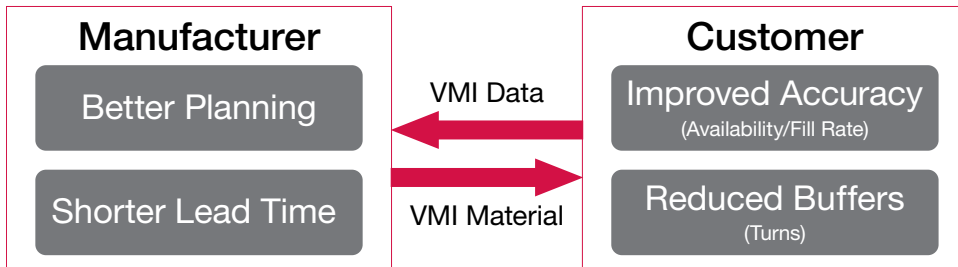


VMI uses electronic communication to determine accurate quantities and shipping times to improve inventory performance.

measure of the predicted variation in the accuracy of the forecast. If the forecast is more accurate, the amount of variation will most likely be reduced, resulting in the reduction of the safety stock number—reducing stock even further.

The VMI Advantage

Cooper Power Systems Vendor Managed Inventory uses electronic communication to automate order processing, removes replenishment calculation responsibility from the customer, provides visibility to inventory metrics, and provides improved inventory performance. The Cooper Power Systems VMI program is a proven process that offers an exceptional return on the investment a customer makes in providing access to their data. The market-at-large continues to be volatile at best, while the VMI process provides a stable planning and execution environment. Associated with best practice planning, it is tuned to meet and exceed the needs and expectations of the customers that participate. ■



VMI brings improvement to turns and fill rate.

A Shorter Lead Time Improves Accuracy

A shorter lead time can also result in a more accurate reorder point, because the shorter the time frame the supplier is trying to predict, the more accurate the prediction will be. (An example would be to compare trying to predict the weather this afternoon to predicting the weather of an afternoon six months from now.) Since the prediction of the quantity being used during the lead time is more accurate, the reorder point is more accurate.

Therefore, reducing the lead time has reduced the quantity of inventory required to cover for the potential variation in demand, while at the same time improving the service level.

Planning Accuracy Reduces Safety Stock.

The last part of the replenishment calculation equation is the safety stock variable. Statistically, this is calculated by comparing the difference between the forecast and the confidence limits on the forecast. Confidence limits are a