

Oracle® Process Manufacturing

MPS/MRP and Forecasting User's Guide

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Oracle Process Manufacturing MPS/MRP and Forecasting User's Guide, Release 11i

Part No. A81329-03

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

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Preface

Welcome to Release 11i of the *Oracle Process Manufacturing MPS/MRP and Forecasting User's Guide*.

This user's guide includes information to help you effectively work with the Oracle Process Manufacturing (OPM) application and contains information about the following:

- Oracle Process Manufacturing overview and reference information
- Oracle Process Manufacturing functions and features
- Oracle Process Manufacturing programs, reports, and navigation paths
- How to navigate to Oracle Process Manufacturing windows

This preface explains how this user's guide is organized and introduces other sources of information that can help you.

About This MPS/MRP and Forecasting User's Guide

This guide contains overviews as well as task and reference information. It includes the following:

- Chapter 1, MPS/MRP Overview, provides an overview of MPS and MRP and sample scenarios. It discusses planning terminology, schedule parameters, and MRP run considerations such as Firmed Planned Orders and Blanket Sales Orders.
- Chapter 2, MPS/MRP Setups, discusses the setups that are necessary to use MPS/MRP.
- Chapter 3, Material Requirements Run, discusses the MRP run form and execution of the MRP run.
- Chapter 4, MRP Error Messages, provides a list of MRP error messages and possible solutions.
- Chapter 5, MRP Bucketed Material Activity, discusses the Bucketed Material Activity report in detail.
- Chapter 6, Approving the MRP Run, discusses the procedure for approving the MRP run.
- Chapter 7, Action Messages, provides details of the action messages.
- Chapter 8, MPS/MRP Online Inquiries, discusses the MPS/MRP online inquiries.
- Chapter 9, MRP and MPS Reports, discusses the MPS and MRP reports.
- Chapter 10, Forecasting, discusses OPM Forecasting and provides procedures for setting up a forecast.
- Appendix A, provides navigation paths for MPS, MRP, and Forecasting. It also provides a troubleshooting topic.
- A Glossary provides definitions of terms that are used in this guide.

Intended Audience

This guide assumes that you have working knowledge of your business area's processes, tools, principles, and customary practices. It also assumes that you are familiar with OPM MPS/MRP and Forecasting. If you have never used OPM, we suggest you attend one or more of the Oracle Process Manufacturing training classes available through Oracle University.

To learn more about Oracle Applications graphical user interface, read the *Oracle Applications User's Guide*.

See: Other Information Sources for more information about Oracle Applications product information.

Other Information Sources

You can choose from other sources of information, including online documentation, training, and support services, to increase your knowledge and understanding of Oracle Process Manufacturing.

If this user guide refers you to other Oracle Applications documentation, use only the Release 11i versions of those guides unless we specify otherwise.

Online Documentation

All Oracle Applications documentation is available online (HTML and PDF). Note that the HTML documentation is translated into over twenty languages.

The HTML version of this guide is optimized for onscreen reading, and you can use it to follow hypertext links for easy access to other HTML guides in the library. When you have an HTML window open, you can use the features on the left side of the window to navigate freely throughout all Oracle Applications documentation.

- You can use the Search feature to search by words or phrases.
- You can use the expandable menu to search for topics in the menu structure we provide. The Library option on the menu expands to show all Oracle Applications HTML documentation.

You can view HTML help in the following ways:

- From an application window, use the help icon or the help menu to open a new Web browser and display help about that window.
- Use the documentation CD.
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Your HTML help may contain information that was not available when this guide was printed.

Related Documents

Since Oracle Process Manufacturing shares business and setup information with other Oracle products as well as with our core OPM products, you should consult other related user's guides when you set up and use any OPM product. You can read the guides online by choosing Library from the expandable menu on your HTML help window, by reading from the Oracle Applications Document Library CD included in your media pack, or by using a Web browser with a URL that your system administrator provides.

If you require printed guides, you can purchase them from the Oracle store.

You may find the following Oracle Applications user's guides useful:

- *Oracle Applications User's Guide*
- *Oracle Application's Flexfields Guide*
- *Oracle Workflow User Guide*
- *Oracle Applications System Administrator's Guide*
- *Oracle General Ledger User's Guide*
- *Oracle Payables User's Guide*
- *Oracle Receivables User's Guide*
- *Oracle Human Resources North American User's Guide*
- *Oracle Purchasing User's Guide*

Oracle Process Manufacturing Guides

The following is a list of documentation in each product group for OPM:

Financials

- *Oracle Process Manufacturing Accounting Setup User's Guide*
- *Oracle Process Manufacturing Cost Management User's Guide*
- *Oracle Process Manufacturing Manufacturing Accounting Controller User's Guide*
- *Oracle Process Manufacturing and Oracle Financials Integration User's Guide*

Inventory Control

- *Oracle Process Manufacturing Inventory Management User's Guide*
- *Oracle Process Manufacturing Physical Inventory User's Guide*

Logistics

- *Oracle Process Manufacturing Order Fulfillment User's Guide*
- *Oracle Process Manufacturing Purchase Management User's Guide*
- *Using Oracle Order Management with Process Inventory Guide*

Process Execution

- *Oracle Process Manufacturing Process Operation Control User's Guide*
- *Oracle Process Manufacturing Production Management User's Guide*

Process Planning

- *Oracle Process Manufacturing Integration with Advanced Planning and Scheduling User's Guide*
- *Oracle Process Manufacturing MPS/MRP and Forecasting User's Guide*

Product Development

- *Oracle Process Manufacturing New Product Development User's Guide*
- *Oracle Process Manufacturing Quality Management User's Guide*

Regulatory

- *Oracle Process Manufacturing Regulatory Management User's Guide*

System Administration and Technical Reference

- *Oracle Process Manufacturing Implementation Guide*
- *Oracle Process Manufacturing System Administration User's Guide*
- *Oracle Process Manufacturing Technical Reference Manuals*
- *Oracle Process Manufacturing API User's Guides*

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MPS/MRP Overview

The Material Requirements Planning (MRP) application enables you to display long-term "views" of material demands and projected supply actions to satisfy those demands. The Master Production Scheduling (MPS) application lets you shorten that view to a much narrower and immediate time horizon, and see the immediate effects of demand and supply actions. The MPS provides set up windows and a shorter range view of material demands.

Master Planning Schedule and Material Requirements Planning as it is used within Oracle Process Manufacturing are discussed in the following topics.

- MPS and MRP Windows
- Sample MRP scenario
- OPM Planning Terminology
- Planning Schedule Parameters
- Planning Classes

Discussions are based on the default menus that are provided when you purchase the Oracle Applications applications.

The menu sequences for both applications do not reflect the order in which you initially define your databases and process MRP suggestions. Rather, they indicate the anticipated frequency of use for each selection (most frequently used selections are near the top, least frequently used are near the bottom). Each selection produces one or more windows, on which you will enter information required to create transactions, or inquire on transactions already processed.

Remember that you define much of the setup data required to generate MRP replenishment suggestions on window in applications other than MPS and MRP.

MPS and MRP Application Windows

Each application has its own set of set up and processing windows.

MPS Application Windows

The setup and processing windows in the MRP application include:

- Schedule
- Material Activity (Online Inquiry and Report)
- Bucketed Material (Online Inquiry and Report)
- Plant Warehouse
- Reorder Point Report

MRP Application Windows

The setups and processing windows in the MRP application include

- Shop Calendar
- Shop Day
- Action Messages (Online Inquiry and Report)
- MRP Run
- MRP Bucketed Material (Online Inquiry and Report)
- MRP Material Activity (Online Inquiry and Report)
- Error Messages (Online Inquiry and Report)

Sample MRP Scenarios

In order to highlight how, and why, certain companies would use MPS and MRP, the following two company profiles are presented.

Company 1 - "Juiced-Up Health Products"

This is a medium-sized, New Jersey-based process manufacturing company that converts produce of all kinds into juices and health drinks. These products include vegetable drinks, such as carrot juice and multi-vegetable drinks, but most of the consumer demand is for fruit drinks. The company usually purchases produce domestically, but will occasionally make a large purchase of oranges from Spain.

None of the fruit drinks are ever frozen, or otherwise converted to concentrate in any window. The juices and drinks always consist of fresh fruit juice.

Because of the perishable nature of both the processing ingredients and the finished products, and the fact that produce yields are subject to weather considerations, MRP presents a relatively short-term view of future material activity. Produce ingredients are generally used in production batches within seven days of being picked. Finished goods are shipped to distributors as they are completed, so there is no product made to stock (at least not intentionally). Finished goods that must be kept in stock remain there for no more than 24 hours.

This company has defined parameters that allow MRP to display demands for production ingredients that display only 90 days into the future. Because of the limited shelf life of the finished juice products, MRP's 90-day view of the sales order demand (which, in turn, prompts demand for ingredients) is also sufficient.

Company 2 - Painted Desert Processing

This is a large company located in Kingman, Arizona that processes paints and stains. It specializes in paint colors and tones reflective of the American southwest deserts. The company purchases much of its required processing pigment and other supplies from distributors within Arizona. It also purchases substantial quantities of pigment from distributors in Alberta province, Canada.

Because the colors of these paints are mostly earth tones, they are usually in great demand. They sell in high volume throughout the year, with the highest volume demand between April and September.

Both the ingredients used to manufacture the paint, and the finished paints themselves, have an indefinite shelf life. Orders for certain pigments take a minimum of 90 days for delivery. Because large orders occasionally arrive for a certain color, the company makes large quantities of product for stock, but attempts to limit stock whenever practical.

MRP has been established to present an 18-month view of material activity (the juice company had a 90-day view) for the following reasons:

- Longer leadtimes for ingredients
- Some of the finished goods inventory is made to stock with an indefinite shelf life
- There are consistent seasonal patterns of greater demand

The fact that there are specific periods of greater demand for which you can plan *allows* you to use MRP to plan batches to satisfy these demands in the future. The fact that there is a relatively long lead time for batch ingredients *requires* that MRP look further into the future to make purchasing suggestions.

By creating forecast demand, this company can use MRP to help in constructing a long-term plan for material purchase and production. For those times of unexpectedly heavy demand, MPS can be used to react to the short-term changes to the production schedule.

OPM Planning Terminology

Before discussing the details of setting up and using OPM MRP capabilities, it would be helpful to understand certain terminology in the context in which OPM interprets it. Note the following definition discussions.

Planning Terminology - Planning

The word "planning" in OPM (when used as a stand-alone reference) refers to the total of all scheduling in a single organization, for all kinds of material supply and demand activity. Material supply activity includes all production (firm-planned orders and batches), purchase (requisitions, purchase orders and blanket purchase orders), and warehouse transfer activity. Demand activity includes sales orders for products, and sales forecasts (that is, forecasts for future demand).

Planning Terminology - Organizations

In OPM, organizations refer to companies and production plants to which you can assign resources, warehouses, or general ledger accounts. You can define organizational hierarchies in which production plants are "owned" by accounting companies. See the *OPM Implementation* user's guide online help for more information on organizations.

Planning Terminology - Planners

"Planners" are responsible for timely balancing of production demand and supply. Separate individuals may schedule production and purchasing in a company, or a single planner may handle both purchasing and production supply scheduling. Planners may also be responsible for leveling production, scheduling efficient batch sizes, and keeping stock balances to a minimum.

Planning Terminology - Schedules

In OPM, a "schedule" (as a stand-alone reference) refers to the transactions, plants, and warehouses for which a planner has interest in viewing material activity. Each planner is responsible for managing a specified portion of inventory. A schedule also refers to the specific planning parameters assigned to a planner. These parameters determine the format in which material demand and supply quantities for specific items appear on MRP and MPS inquiries and reports.

As a planner you do not necessarily buy the raw materials for production (this may be left to a separate "buyer"). However, you may, because of the schedules assigned to you, generate requests for raw materials; the buyer then creates purchase orders for the items.

After you define a schedule, you may use it to create a link between organizations and the plants/ warehouses that contain the items the planner wants to schedule. Procedures to define these links are discussed in this guide help.

Planning Terminology - Production Schedules

In OPM, the "production schedule" refers to all batches that you are either in the process of completing, or definitely intend to make at some time in the future.

Planning Terminology - MPS and MRP

One way to differentiate between MPS and MRP in OPM is to describe MPS as providing the more short-range, dynamic view of material activity. MPS can give you and other planners a view (weekly, daily, or even hourly) of the production that is scheduled to meet immediate requirements.

MRP provides the more long-range view of material. It is therefore the less dynamic

Note the illustration. It shows how both MRP and MPS can give you the view of material activity, starting from the present time. However, MPS gives you an accurate view of material activity over a short time horizon.

MRP provides the long-range material planning view, the model for material considerations over a much longer time horizon. MRP suggests specific actions to keep inventory and demand quantities in balance. If you define setup criteria correctly, MRP makes suggestions only for the items, warehouses, and production plants for which each specific planner has interest.

As those MRP-planned events in the future approach the present, MPS comes more heavily into play, allowing you to "fine tune" the MRP view to produce a more specific view of material activity. It is this specific view that helps you to design your production schedule.

Another basic difference between MPS and MRP is that MPS deals solely with *real* events, such as firm-planned orders and batches already entered. MRP has the capacity to *plan* activity based on anticipated inventory demands and supplies. Note the following discussions for more on the differences between the two material planning tools.

Planning Terminology - The Master Planner

You, as the master planner (planner) in your company, are responsible for timely balancing of production demand and supply. Separate individuals may schedule production and purchasing in a company, or a single planner may handle both purchasing and production supply scheduling. As the planner, you may also be responsible for leveling production, scheduling efficient batch sizes, and keeping stock balances to a minimum.

Planning Terminology - Master Scheduling Using OPM

OPM Master Production Scheduling (MPS) gives you, the planner, the tools to plan production, and react to changing supply and demand. MPS allows the planner(s) to view both supply and demand for one or more specific items in a specified time frame. This view, specific to only those items over which you, the planner, have authority, indicates when demand requires production or purchase of an item. When production, or purchase, of the item is planned, you may view the impact immediately. If the purchase or production is delayed, the impact of that delay is also visible immediately.

Planning Terminology - Master Production Schedules

The production schedule is a list of material activity (firm-planned orders, batches, warehouse transfers, and cancellations) for production. Each MRP report, and the resulting material replenishment scheduling actions, is based on a specific master production schedule. Each master production schedule defines a separate set of criteria by which MRP will suggest replenishment of materials (for example, whether sales forecasts and sales orders will be viewed by MRP as demand when the schedule is used).

Planning Terminology - MPS and MRP

Before you can use either the MPS or MRP applications, you must create one or more schedules. The schedule is the list of the inventory transactions, plants, and warehouses that you control as the planner. You are responsible for managing a specified portion of inventory. As a planner you do not necessarily buy the raw materials for production (this may be left to a separate "buyer"). However, you may, because of the schedules you define, generate requests for raw materials; the buyer then, creates requisitions or purchase orders for the items.

After you define a schedule, you may use it to create a link between organizations and plants/ warehouses. Procedures to define these links are discussed in this guide online help.

Planning Terminology - Master Production Schedule and MRP Run

The schedule is a list of firm-planned orders (FPO's) and planned production batches (PROD). A FPO represents potential work for production, and indicates a source of supply for manufactured goods, and a source of demand for processing ingredients.

A MRP run is a time-phased projection that considers the following:

- Formula and Warehouse Effectivities
 - planning effectivities (considered first)
 - production effectivities (considered second)
- Required Manufacture Start and End Dates
- Open Production Orders
- FPO's (firm-planned orders)
- Open Sales Orders
- Open Purchase Orders
- Sales Forecasts (from outside of OPM)

Planning Terminology - Multiple Schedules

A company can have numerous buyers / planners responsible for various areas of production. Each buyer / planner can create a separate, desired schedule, with its own parameters. The planner may then selectively act on MRP suggestions for replenishing inventory, and generate FPO's, batch tickets, and reports for that schedule.

Process/Material Requirements Planning

MRP suggests specific actions to keep inventory and demand quantities in balance. If you define your setup criteria properly, MRP makes suggestions only for the items, warehouses, and production plants over which you have control.

You must first define the appropriate shop calendars, used by MRP to calculate the dates on which production batches for inventory replenishment should begin. You must then define the conventions for reordering based on timefences. A timefence is a policy or guideline created to note where various restrictions or changes in operating procedure take place. You define timefences in the Inventory application to establish reorder, production, and warehouse transfer guidelines. You also define (on the MPS Schedule window) a timefence specific to each schedule; MRP refers to the most restrictive schedule when more than one exists.

MRP reports indicate the effects of MRPs suggested resupply transactions on current and future inventory levels.

Why Use MPS?

Master Production Scheduling (MPS) gives you, the planner, the tools to plan production and react to changing supply and demand. MPS allows each planner to view both the supply of and the demand for one or more specific items in a specified time frame (usually a relatively restricted time horizon, like one day).

When MPS setup data is defined correctly, you can restrict your view to only those items that are of interest to you. You can more easily determine when demand for these items requires purchase or production. You may then schedule the required production or purchase, and view their impact immediately. If the purchase or production is delayed, you may also view the impact of that delay immediately.

Why Use MRP?

As a planner using the MPS application, you may notice over time that various supply and demand trends have developed. For example, you may have had a steady weekly batch demand for 80 pounds of an item, but you have consistently ordered 100 pounds of it. Trends like these give you the opportunity to plan material activity far into the future. This is where MRP becomes a useful planning tool.

As mentioned earlier, MPS allows you to view material activity on an immediate basis (for example, daily). It also allows you to respond to immediate changes in material demands and supply (such as a larger batch than expected, or a canceled batch).

Where MPS allows you to *respond* to material activity, MRP, by contrast, allows you to *plan* far in advance for anticipated demand, and the material supply that will satisfy it. MRP does this by suggesting that material purchases be made to satisfy future production batch requirements. MRP may also suggest production of batches to meet future sales order demand (both actual sales orders and forecasted demand).

Master (Production) Schedule, MPS, and MRP

As time advances and future MRP-planned activity comes closer, you can then use MPS to "fine tune" your production schedule by addressing the smaller, more immediate changes in demand and supply. MRP therefore allows you to view long-range material activity, giving you a measure of control over future supply and demand and the projected effects on your production schedule. MPS gives you the short-range view of current material events that could affect your production schedule.

Planning Schedule Parameters

Schedules and their parameters are discussed.

Schedules

Before you can use the Process Material Requirements Planning application (hereafter called MRP) to make replenishment suggestions, you must define the planning schedule parameters. The planning schedule includes a list of the items, manufacturing plants, and warehouses in which you, as the planner, have interest. The schedule parameters define the rules by which MRP will make replenishment suggestions when that particular schedule is used.

You define schedule parameters in the Master Production Schedule (MPS) application. You then link the schedule parameters to yourself (and other planners) and to the inventory items in which you have scheduling interests.

You must define all of these relationships in order for MRP to be effective. Procedures for defining schedule parameters and linking them to the appropriate buyers and items are included in the following discussions.

Note: OPM allows you to assign each planner (user) a default set of schedule parameters. However, each planner may be assigned access to any valid set of schedule parameters.

Production Schedules

The production schedule is a list of material activity (firm-planned orders, batches, warehouse transfers, and cancellations) for production. Each MRP report, and the resulting material replenishment scheduling actions, is based on a specific production schedule. Each production schedule represents a separate set of criteria by which MRP will suggest replenishment of materials (for example, whether sales forecasts and sales orders will be viewed by MRP as demand when this schedule is used).

Planning Classes

You, as the planner, may be responsible for the purchase and manufacture of all items bought and / or produced by your company. Or, you and other planners may each be responsible for only one or more specific lines of product items. Regardless of the situation, if you want inventory items to be linked by planning classes on reports, you and the other planners must be linked to the items in which you will have planning interests.

A planning class groups items with similar planning characteristics, and also links the items to the appropriate planners. This allows MRP to generate reports for each individual planner. Multiple planners (users) can control the same item, if the planners' user codes share the same planning class codes.

The remainder of this chapter discusses the following topics:

- Defining Planning Classes
- Assigning Planning Classes to Inventory Items
- Assigning Planning Classes to Buyers / Planners

Defining Planning Classes

You must first define planning classes on the Planning Class window in the Inventory Management application. A planning class can be associated with selected inventory items and a selected buyer / planner, thereby creating a link between those inventory items and the specific buyer / planner. This association

through the planning class allows you to generate MRP reports that reflect only those items in which the buyer / planner has scheduling interests.

After you define the appropriate planning class, you must assign it to the applicable items on the Inventory Items window. Note the planning class entered on the Items window illustration (the last field on the right).

You must also link the planning class to the user (buyer) on the Operator Classes window.

Each user can have many planning classes, but each inventory item can have only one. If more than one user has interest in planning an item, then each of those users must be assigned the planning class identical to the one assigned to the item.

By linking the planning class to the user (buyer / planner) and the appropriate inventory items, the user can restrict the Material Activity and Action Message reports* to only those items over which he / she has control.

The MPS and MRP applications both offer a Material Activity report and a Bucketed Material report. Details on these can be found in the *Reports* topic. Anyone with security access to these report windows can run them, regardless of whether the user running the reports has been assigned the schedule or planning class codes.

MRP Run Considerations

A MRP run is a time-phased projection that considers the following:

- Formula and Warehouse Effectivities
 - planning effectivities (considered first)
 - production effectivities (considered second)
- Required Manufacture Start and End Dates
- Open Production Orders
- FPOs (firm-planned orders)
- Open Sales Orders
- Open Purchase Orders
- Approved Purchase Order Requisitions
- Scheduled Deliveries Against Blanket Purchase Orders
- Sales Forecasts (from outside of OPM)

MRP and Firm Planned Orders

The production schedule is a list of production batches and firm-planned orders (FPOs). The planner manually enters a firm-planned order, or converts a planned order (suggested by MRP) to a firm-planned order. Each firm-planned order represents batches you definitely intend to make.

A FPO represents potential work for production, and indicates a source of supply for manufactured goods, and a source of demand for processing ingredients. The planner can change a FPO at any time. FPOs can (at the planner's discretion) become production batches. You can enter a firm-planned order on the following windows:

- Firm Planned Order
- Firm Planned Order Ingredient Window
- Firm Planned Order Byproduct Window

After you review MRP suggestions, you may want to plan some production in the future. An FPO allows you to perform mid- to long-range planning, without committing inventory. Each FPO can be converted into one, or many, simultaneous or consecutive batch tickets as you approach actual production dates.

Multiple Organizations and Schedules

A planner may have planning interests in inventory items within many organizations in your corporation. The planner may also use different schedules for generating MRP suggestions, depending on the organizations for which he / she is planning.

OPM allows you to link a planner to all of the organizations in which he / she will have planning interest. The planner can then run MRP for the organization that he / she wants, and according to the appropriate schedule (parameters). Each buyer / planner can create a separate, desired set of schedule parameters. The planner may then selectively act on MRP suggestions for replenishing inventory, and generate FPOs, batch tickets, and reports for that schedule.

Blanket Purchase Orders

A blanket purchase order (BPO) is a commitment to purchase a specific quantity of an item, or a specific dollar amount, from a vendor. This commitment covers a fixed time period (examples: one year; one quarter). BPOs often allow the planner to receive price breaks and improved delivery reliability.

The Purchasing application provides the windows necessary to enter BPOs, as well as a proposed schedule for the delivery of the items. However, when you first create the BPO, you may not know the actual delivery schedule for the entire term of the purchase order commitment. When you first create the BPO, you can define a proposed delivery schedule, which anticipates the quantities and delivery dates from the purchase order.

Throughout the term of the blanket purchase order, you will generate BPO releases as material requirements become firm (a release is a formal order to the vendor to ship a quantity of the ordered item). Transactions created in OPM from a release against a BPO closely resembles those created when you create and save a regular purchase order.

BPOs and MRP

OPM offers the option of letting MRP (during the MRP runs) consider the anticipated deliveries from BPO schedules. Instead of suggesting a new purchase of material, MRP will suggest releases against scheduled BPOs. Lead time and safety stock requirements for the items are identical to the requirements usually referred to by MRP.

MRP and Rescheduling

The basis of rescheduling in OPM is that an order can be moved to meet the demand needs of a schedule. To do this MRP locates a net safety stock requirement (Net Requirement). OPM then uses the reschedule interval from either the Warehouse Rules for purchasing or Production Rules for production. Then the interval is added and subtracted to the demand date to create the “Reschedule Interval”.

MRP then searches within the demand dates reschedule interval to locate an existing order that can be used to meet the demand. Once found, the order is incorporated into and action messages and suggestions made to meet the demand. These messages will display two separate ways of meeting the demand: Status Quo or Net Requirement.

The purpose of providing two methods is that the lack of knowledge at the time of planning forces MRP to try to solve a problem it can not. Once a “Firmed Planned Order” has been made, MRP cannot modify it. Since MRP does not take into account the capacity of production or the actual timeframe for a purchase order, any suggestion is difficult define. The planner has the best view of what is going on and knows what can and can not be done, hence the action messages display

information in the place of actual changes.

MRP assumes that when a demand exists there is a way to resupply that demand. When insufficient leadtime exists according to the rules defined MRP knows that demand will be met some way or the demand date will be moved. MRP handles this situation with exception messages, that is messages that tell you to do something outside of the planning rules. The following are assumption or properties involved with rescheduling:

- will not increase the size of an existing order.
- does not have the ability to actually move an order
- can only use an order once for rescheduling.
- will only use one order to reschedule with
- can reschedule with insufficient leadtime as an exception

Rescheduling Examples

To aid the understanding of the Reschedule functionality, two examples are provided in the following tables. Example one has the resupply order before the demand. For demonstration purposes production will be used for planning, but the process is the same for purchasing. Day0 is the MRP run date.

Rescheduling - Example One

	Day-1	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
Doc	n/a	n/a	n/a	prod	n/a	n/a	opso 1	n/a	n/a	n/a
Qty	n/a	n/a	n/a	100	n/a	n/a	400	n/a	n/a	n/a
Net Req	0	0	0	100	100	-300	-300	-300	-300	-300

Reschedule Interval is 3 days.

Rescheduling - Example Two

Example two has the resupply order after the demand. For demonstration purposes production will be used for planning, but the process is the same for purchasing. Day0 is the MRP run date.

	Day-1	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
Doc	n/a	n/a	n/a	n/a	n/a	opso 1	n/a	prod	n/a	n/a
Qty	n/a	n/a	n/a	n/a	n/a	400	n/a	100	n/a	n/a
Net Req	0	0	0	0	0	-400	-400	-300	-300	-300

Reschedule Interval is 3 days.

Rescheduling - Result One

Using example one with safety stock set to 0 and a leadtime of 0 days MRP would produce the following results.

Start	Doc	Qty	Action	Cmplt	Comment
Day 4	PPRD	300	Planned Batch	Day 4	n / a
Day 4	PROD	300	Move / Resize Batch	Day 4	Prod 100
Day 4	SHRT	0	Shortages	Day 4	Opso 400

The batch for 100 is suggested to be moved and resized by 300 to meet the shortage. A planned production batch is also created for 300 because the size of a batch can not be changed by MRP. Once an order has been created by the user MRP will not change the size, but rather recommend some alternatives. The interpretation of the messages will be discussed after these examples.

Rescheduling - Result Two

Using example two with safety stock set to 0 and a leadtime of 0 days MRP would produce the following results.

Start	Doc	Qty	Action	Cmplt	Comment
Day 4	PPRD	300	Planned Batch	Day 4	n / a
Day 4	PROD	400	Move / Resize Batch	Day 4	Prod 100
Day 4	SHRT	0	Shortage	Day 4	Opso 400

The batch for 100 is suggested to be moved and resized by 400 to meet the shortage. A planned production batch is also created for 300 because the size of a batch can not be changed by MRP. Once an order has been created by the user MRP will not change the size, but rather recommend some alternatives. The interpretation of the messages will be discussed after these examples.

Rescheduling - Result Three

Using example one with safety stock set to 0 and a leadtime of 5 days MRP would produce the following results.

Start	Doc	Qty	Action	Cmplt	Comment
Day 4	PPRD	300	Exception Planned Batch	Day 4	n / a

Start	Doc	Qty	Action	Cmplt	Comment
Day 4	PROD	300	Exception Move/Resize	Day 4	Prod 100
Day 4	SHRT	0	Shortage	Day 4	Opso 400

The batch for 100 is suggested to be moved and resized by 300 to meet the shortage. A planned production batch is also created for 300 because the size of a batch can not be changed by MRP. These suggestions are exception because the leadtime to produce the batch is not sufficient. Once an order has been created by the user MRP will not change the size, but rather recommend some alternatives. The interpretation of the messages will be discussed after these examples.

Rescheduling - Result Four

Using example two with safety stock set to 0 and a leadtime of 5 days MRP would produce the following results.

Start	Doc	Qty	Action	Complt	Comment
Day 4	PPRD	300	Exception Planned Batch	Day 4	n/a
Day 4	PROD	400	Exception Move / Resize	Day 4	Prod 100
Day 4	SHRT	0	Shortage	Day 4	Opso 400

Rescheduling - Result Five

Using example one with maximum batch size of 100, safety stock set to 0 and a leadtime of 0 days MRP would produce the following results.

Start	Doc	Qty	Action	Cmplt	Comment
Day 4	PPRD	100	Exception Planned Batch	Day 4	n/a
Day 4	PPRD	100	Exception Planned Batch	Day 4	n/a
Day 4	PPRD	100	Exception Planned Batch	Day 4	n/a
Day 4	SHRT	300	Move / Resize Batch	Day 4	Prod 100
Day 4	SHRT	0	Shortage	Day 4	Opso 400

The batch for 100 is suggested to be moved and resized by 300 to meet the shortage, but by doing that the maximum size for a batch is exceeded. Three planned production batches are also created for 100 each because the size of a batch can not be changed by MRP. Once an order has been created by the user MRP will not change the size, but rather recommend some alternatives. The interpretation of the messages will be discussed after these examples.

Rescheduling - Result Six

Using example two with maximum batch size of 100, safety stock set to 0 and a leadtime of 0 days MRP would produce the following results.

Start	Doc	Qty	Action	Cmplt	Comment
Day 4	PPRD	100	Exception Planned Batch	Day 4	n / a
Day 4	PPRD	100	Exception Planned Batch	Day 4	n / a
Day 4	PPRD	100	Exception Planned Batch	Day 4	n / a
Day 4	PROD	400	Move/Resize Batch Exceeds Mas	Day 4	Prod 100
Day 4	SHRT	0	Shortage	Day 4	Opso 400

The batch for 100 is suggested to be moved and resized by 400 to meet the shortage, but by doing that the maximum size for a batch is exceeded. Three planned production batches are also created for 100 each because the size of a batch can not be changed by MRP. Once an order has been created by the user MRP will not change the size, but rather recommend some alternatives. The interpretation of the messages will be discussed after these examples.

Rescheduling Action Messages

Action messages can be interpreted by two methods, “Status Quo” and “Net Requirement”. The methods can be used mutually exclusive or in conjunction. There are similarities between the two methods when the order resides before the demand, but the methods differ when the order is after the demand. For more information on Action Messages refer to the *Action Messages* topic.

Status Quo Method

The method Status Quo means keeping the status the same and changing it as little as possible. The purpose of following this method is to maintain the resupply that existed before the reschedule event was suggested. To follow this method, the planner should act on the move and the quantity in the “Move/Resize” message. This will always maintain what was there before, keeping the Status Quo. When the resupply order is before the demand, the order has already been used in the calculation of Net Requirement, thus the quantity in the message is just the amount needed to meet the demand. This can be seen from Results 1,3,5 as explained above. The maximum batch size issue will need to be worked out separately.

When the demand is before the resupply order the results differ. Since the order is after the demand, it is assumed that the order was meant to resupply some other demand which occurs later in the plan. To maintain this integrity, the NetReq at the time of the demand will be the quantity in the “Move/Resize” message. Even though it suggested that the order be moved and the suggested planned resupply orders that go along with the reschedule take this into account, the quantity for the resize is set to not affect the future resupply. This can be seen from Results 2,4,6 in the examples. The maximum resupply order size issue will need to be worked out separately.

Net Requirement Method

Net Requirement means to just meet the current demand and let MRP plan the future. The purpose of following this method is to utilize whatever resupply orders that exist for the Net Requirement at hand. To follow this method, the planner should act on the move in the “Move/Resize” message, but use the quantity from the suggested planned resupply orders. In the case of multiple resupply orders, the sum total should be used. This will always meet the Net Requirement for the demand. When the resupply order is before the demand, the resupply order has already been used in the calculation of Net Requirement, thus the quantity in the “Move/Resize” message should be the same as the total for the suggested planned resupply orders, thus either would be the correct amount needed to meet the demand. This can be seen from Result 1,3,5. The maximum resupply order size issue will need to be worked out separately.

When the demand is before the resupply order, the action taken will be the same. The planner should use the total quantity from the suggested planned resupply orders to meet the NetReq after the resupply order has been logically moved. This can be seen from Result 2,4,6. The maximum resupply order size issue will need to be worked out separately.

Summary

If the main purpose is to maintain the resupply that currently exists, Status Quo, then the planner should always use the quantity suggested in the “Move/Resize” message. If the concern of the planner is to just meet the resupply needs at the time of the demand, Net Requirement, the sum total of the suggested planned orders associated (pegged) with the “Move/ Resize” action should be quantity used to resize. In either method if the order is resized the suggestion planned orders need not be created. The planner can use both of these methods or use only one.

MPS/MRP Setups

You must first define the appropriate shop days and shop calendars used by MRP to calculate the dates on which production batches for inventory replenishment should begin.

You must then define the conventions for reordering based on time fences. A time fence is a guideline created to note where various restrictions or changes in operating procedure take place. You define time fences in the Inventory Control application to establish reorder, production, and warehouse transfer guidelines. You also define (on the MPS Schedule window) a time fence specific to each schedule; MRP refers to the most restrictive schedule when more than one is available.

You will perform most of the setup for MRP in Inventory Control, Forecast and MPS applications. MPS and MRP setups are discussed in the following topics:

- Setting Up MRP Prerequisites
- Plant / Warehouse Relationships and MRP
- Shop Calendar Overview
- Defining Shop Days
- Defining the Shop Calendar
- Schedule Parameters Overview
- Defining Schedule Parameters
- Defining Warehouse Rules and MRP
- Defining Warehouse Transfer Rules and MRP
- Assigning a Schedule to a User
- Schedule Parameter Assignment - Multiple Organizations

Setting Up MRP Prerequisites

In addition to the setups discussed in detail, prerequisites must be defined in the specified applications.

Setting Up the Order Fulfillment Application

In the Order Fulfillment application, set up the following:

- Tax Location Codes (if you are using the Tax application)
- Sales Orders

Setting Up the OPM System Administration Application

In the OPM System Administration application, set up the following:

- HR Organizations
- Organizations
- User Organizations
- User Planning Classes
- Unit of Measure Types
- Units of Measure
- Document Ordering
- Reason Codes
- Geography Codes

Setting Up the Inventory Control Application

In the Inventory Control application, set up the following:

- Items
- Warehouses
- Locations
- Item Lot / Sublot UOM Conversions
- Item Quantities
- Warehouse Rules
- Production Rules
- Warehouse Transfer Rules

Setting Up the Formula Management Application

In the Formula Management application, set up the following.

- Formulas (for products, byproducts, and ingredients)
- Production Effectivities

Setting Up the Production Management Application

In the Production Management application, set up the following:

- Batches and Firm-Planned Orders

Setting Up the Purchasing Application

In the Purchasing Application, set up the following:

- Purchase Order Requisitions
- Purchase Orders
- Blanket Purchase Orders

Plant/Warehouse Relationships and MRP

When you define the hierarchy of your corporate and production facilities (on the Organization window in the System application), you must flag those organizations that are production plants.

You must then define the relationship between production plants and warehouses. These associations between production plants and warehouses indicate which warehouses are sources of (finished goods) demand on the production plant, and which warehouses are sources of (ingredient) material for production at the plant.

This section discusses the following topics:

- Flagging an organization as a production plant
- Linking production plants to the storage warehouses that supply raw material for production, as well as warehouses to which finished goods are sent

Creating Manufacturing Plant Organizations Procedure

You must define the organization for which you are creating the schedule as a "manufacturing plant" organization. To do this take the following steps:

1. Navigate to the **Organizations** window.
2. To make an organization a plant, you must select **Manufacturing Plant** in the **Plant Indicator** field.

Setting Up Plant-Warehouse Relationships

Production plants need raw materials in order to manufacture goods. The Plant Warehouses window allows you to link the production plants to the storage warehouses that supply the raw materials for production. You can also link the production plants to those warehouses to which finished goods are sent. These relationships, also referred to as "plant-warehouse effectivities", determine the consumption and replenishment rules between plants, warehouses, and items.

Setting Up Plant-Warehouse Relationships Procedure

1. Navigate to the **Plant Warehouses** window.
2. Complete the fields on the **Plant Warehouses** window as described
3. Save the window.

Plant Warehouses Window Field References

Plant

Enter the organization that has been defined as a production plant on the OPM Systems Application Organization window. A plant consumes items from one or more warehouses, and replenishes items to one or more warehouses. The description of the organization is displayed. Required.

Whse

On each of the succeeding lines, enter the warehouses that will either supply raw materials for the production plant, or will be the destination for finished goods produced at the plant. Required.

Note: You should define a warehouse as a consumption warehouse *only* if the material is always immediately available. If the warehouse requires lead time in order to supply the material from another location, or a transfer of stock from another warehouse, define it as having a "transfer only" relationship with other warehouses. You do this by entering the warehouse and leaving the following two fields blank or unchecked.

Consumption

Click this box to indicate that the production plant can get raw material immediately from the warehouse you specified. Note that this implies immediate availability of the material from the warehouse.

Clear this box if the warehouse requires lead an inventory transfer from another warehouse in order to be a source of supply. Also clear this check box if the warehouse does not supply ingredients at all.

Replenishment

You may wish to have your intermediate items replenished to the same warehouse in which you store your raw materials.

This is a replenishment indicator, which indicates if the production plant sends manufactured products to the warehouse you specified. Click this check box to indicate that the warehouse receives manufactured products from the plant.

Clear this check box if the warehouse does not receive manufactured products from the plant, or if you are establishing this as a "transfer only" warehouse.

If you defined this warehouse as having a "transfer only" relationship with other warehouses, OPM refers to the Inventory Control application's Warehouse Transfer Rules window for the material transfer parameters.

Warehouse Item

You can define a warehouse item on the Items window. Entering this item code in this field allows you to group items that share the plant-warehouse replenishment and sourcing. See the *Oracle® Process Manufacturing Inventory Management User's Guide* for more information.

Enter the code for the item or warehouse item that is either supplied to the plant from the warehouse as raw material, or sent to the warehouse from the plant as finished, manufactured goods.

If you leave the field blank, all items in this warehouse will be considered either raw material for supply (consumption), or finished, manufactured product (replenishment), depending on how the previous two indicators are set.

You should only define a **maximum of one blank warehouse item** for replenishment and one for consumption. If more than one blank warehouse item is defined, MRP will not know how to plan.

Setting Up Warehouse Security

A master planner can use warehouse security to limit a local planner's access to MRP and MPS information. Warehouse security allows a planner to only view activities in warehouses associated with the plants defined as his user organizations and which are listed under the schedule details. Throughout MRP and MPS, any Warehouse field List of Values only shows the the user's associated warehouses. This is helpful for companies with many production plants and planners because it limits a local planner's query to only the activities relevant to those plants listed in his user organizations.

Setting Up Warehouse Security Procedure

1. Set up the user organizations for each planner. Refer to the Editing User Organizations topic in the Oracle Process Manufacturing System Administration User's Guide for more information.
2. Set up Plant-Warehouse relationships in the Plant Warehouses window for the warehouses associated with each plant. Refer to the Setting Up Plant-Warehouse Relationships topic for more information.
3. Link user organizations for a planner to an MPS schedule in the MPS Schedule Parameters window Schedule Details region. Refer to the Defining an MPS Schedule topic for more information.
4. Set the system default value of the GMP:Enable Warehouse Security profile option to **Yes** in the Oracle System Administration System Profile Values window. Refer to the Oracle Process Manufacturing Implementation Guide for more information about this profile option.

Setting Up the Shop Calendar Overview

MRP refers to the shop calendar to determine nonworking shop days in its replenishment calculations. MRP will not schedule shop activity for days that the shop is closed.

The following topics are discussed:

- Defining Shop Days
- Defining a Shop Calendar and Calendar Details

Defining Shop Days

Before you can define a shop calendar, you must define the types of work days (regular work days) and off days (for example, weekends and holidays) that will be included in the calendar. You can define as many shop days as you need. For each type of shop work day, you can define the beginning and ending times for up to three working shifts, not to exceed a 24 hour period.

Later, when you define the shop calendar, these shop day types are plotted on the actual shop calendar. MRP will schedule work only for those days defined as working shop days. It considers the start times and duration of shifts to suggest replenishment accurately, taking production lead times into account.

Defining Shop Days Procedure

To define shop days, perform the following:

1. Navigate to the **Shop Days** window.
2. Complete the fields as described.
3. Save the window.

Shop Days Window Field References

Shop Day

Enter the type of shop day you are defining. For example, you may enter "HOL" for a holiday, "WE" for a weekend day, or "REG" for a regular workday. Format of the shop day code is completely at your discretion. Required.

Description

Enter a brief description of the type of shop day you are defining. For example, "weekend".

Time Details

Shift

If the day type you are defining is a work day, specify the number of each shift (usually 1, 2, and 3) on each of the separate lines that display. You can define up to three shifts for each day type.

Note: If a shift spans across midnight, you may see that transactions entered past midnight may spill into a non-working day or weekend bucket.

Time Details

Start

Based on the 24-hour clock, specify the time this shift begins. For example, enter 1600 if the shift begins at 4 PM. (4 A.M. would be 04:00.) The earliest time you can enter is 00:00:01.

End

Based on the 24-hour clock, specify the time this shift ends. For example, enter 2300 if the shift ends at 11 PM. The latest time you can enter is 23:59:59.

Defining the Shop Calendar

MRP refers to shop calendars when it calculates the suggested start dates for supply orders. The calendars indicate the dates for which manufacturing work can be scheduled, and they must include shop days for which working hours are defined in order for MRP to function. You can define as many calendars as you want, for the effective date ranges that you need.

Defining a shop calendar requires that you make entries on two windows. First, you must assign the default work day types (discussed earlier in the section) to each day of the week; you do this on the Shop Calendar Header window. For example, if Wednesdays are normally work days, enter the shop day type for a regular work day for Wednesdays.

You may then "fine tune" the calendar on the Calendar Detail window, where you will have to edit only the exceptions where the global calendar rules do not apply. For example, you can assign holidays, additional work days, and other exceptions to the default rules you established on the Shop Calendar Header window.

Later, you will link one or more calendars to a schedule (and to the organization linked to the schedule) using the MPS Schedule window. Each planner may have a separate calendar established, or a calendar may be shared among two or more planners.

Defining the Shop Calendar Procedure

To define a shop calendar, perform the following:

1. Navigate to the **Shop Calendar** window.
2. Complete the fields as described.
3. Save the window.
4. Click **Details** to proceed to the **Shop Calendar Details** window. See *Setting Up Calendar Details* for more information.

Shop Calendar Window Field References

Calendar

Enter the name of this shop calendar; you can have as many shop calendars as you need. Required.

Description

Enter a brief description of this calendar.

Active

You have the option of defining a simulated calendar (and schedule) to produce experimental MRP recommendations for testing purposes. These simulated calendars are never included in real schedules.

Select this check box if this is an active calendar (that is, one which can be linked to an active schedule). Clear the check box if this is a simulated calendar for testing purposes (the calendar will be marked for purge automatically).

Sunday/Saturday

This will be the shop day default for every Saturday and Sunday on the calendar (you may change these defaults later on the actual monthly calendars, as necessary). If the shop is normally closed on Saturdays and Sundays, you may leave the fields blank.

Monday - Friday

Enter the code (for example, "REG" for regular workday) for each of the days of the workweek. These will be the defaults for each of those days on the calendar (you may change these defaults later on the actual monthly calendars, as necessary).

At this point you must select **Save** to save the Header information. When the screen redisplay, enter the calendar code in the **Calendar** field. The information you just entered on the Calendar Header window displays automatically.

Defining Shop Calendar Details

At the Shop Calendar Details window, you may specify which days of a specific month and year combination are work days. When you are defining a Shop Calendar for the first time, the Calendar Range dialog box displays. At this dialog box, you select the beginning and ending dates of the new calendar.

Defining Shop Calendar Details Procedure

1. Click **Details** on the **Shop Calendar** window. This displays the **Calendar Range** dialog box. On this dialog box, you may enter the date range that this calendar will cover.
2. In the **Start Date** field, type the date on which the calendar begins.
3. In the **End Date** field, type the date on which the calendar ends.
4. Click **OK**. This clears the dialog box from the screen and the **Shop Calendar Details** window is displayed at the first month of the calendar you are defining.
5. Complete the **Shop Calendar Details** window as described.
6. Save the window.

Shop Calendar Details Field References

Calendar

This field displays name and description of the calendar. This information is populated from the Shop Calendar header information.

Unlabeled Field

This field displays a month and year combination. You can scroll this field by clicking the arrows. The arrows on the left scroll you through the range calendar months. The arrows on the right scroll you through a range of years if the calendar you have defined includes more than one year.

Days of the Month Area

The body of the window displays the days of the month. Each day is a check box. Each calendar day that you defined as a work day has its check box selected. Clear a check box if the day is not a work day (for example a holiday).

Shop Day

This field displays the name and the description of your shop day. You can change this value to any other previously defined shop day.

Defining a Calendar Range

The Calendar Range dialog box displays after you save the window when you are creating a new calendar. You may also navigate to the Calendar Range dialog box from the Shop Calendar and the Shop Calendar Detail forms' Actions menu. Here you may enter or modify the date range that this calendar will cover.

Defining a Calendar Range Procedure

1. Navigate to the **Calendar Range** dialog box.
2. Complete the fields as described.
3. Click **OK**.

Calendar Range Dialog Box Field References

Start

Enter the date that this shop calendar takes effect. Required.

End

Enter the date this calendar expires. Required.

Schedule Parameters Overview

The schedule parameters are the primary driver of process material requirements planning. They determine the horizon for which MRP will consider material activity. The schedule parameters also determine which plants (organizations) MRP is to consider when suggesting replenishment.

Each set of schedule parameters contains a flag which indicates if MRP should consider blanket purchase orders during the MRP runs. Another flag indicates if MRP should recommend changes to blanket purchase order release quantities when making replenishment suggestions. See *Blanket Purchase Orders and MRP* for more on blanket purchase orders.

Whenever you specify the code for a set of schedule parameters, you must also specify a valid organization code to correctly identify the schedule parameters.

This section discusses the following:

- Setting Up MPS Schedule Parameters

- Inner Time Fence
- Setting Warehouse Rules for MRP
- Days Supply
- Replenishment Priorities
- Warehouse Transfer Rules

Defining an MPS Schedule

When you define your schedule parameters, you indicate the criteria by which inventory supply and demand will appear on displays and reports. You also indicate which specific plants will be included. All MRP and MPS reports are specific to a given set of schedule parameters (that is, the schedule parameters you use for the MRP run determines the plants for which MRP suggestions will be made, and the criteria by which supply / demand data will display).

You must define at least one set of schedule parameters, to which MRP will refer when making suggestions for material replenishment. The MPS Schedule Parameters window allows you to define this schedule criteria. Later, you may assign these schedule parameters to the appropriate planner(s) using the Systems application's Session Parameters window. The schedule parameters then become the defaults for these planners when they generate MRP runs.

Defining an MPS Schedule Parameters Procedure

1. Navigate to the **MPS Schedule** window.
2. Complete the fields on the **MPS Schedule Parameters** window as described.
3. Save the window.

MPS Schedule Parameters Window Field References

Organization

This field displays the default Organization. To view schedule parameters tied to another organization, enter the appropriate organization code. Note that this organization must be linked to the user on the User Organizations window in the OPM System Administration application.

You may alter your default organization and schedule for the current session through the Session Parameter option.

Schedule

If you accepted the default organization from the previous field, the code for the default schedule parameters assigned to the user / planner (in User Profiles) displays here. You may then enter the parameters for the default organization and schedule combination. Override the default schedule parameters code to enter parameters for a different organization / schedule parameters combination.

If in the previous field you specified an organization other than the default, the Schedule field is blank. You must specify the desired schedule for which you want to enter parameters. Note that there can be no spaces in the schedule code.

Schedule Description

Enter a brief description of this set of schedule parameters, which will appear on the List of Values (LOVs).

Indicators Region

The default, Include Sales Forecasts, displays to indicate forecasts as a source of demand when these schedule parameters are used (that is, products will be made to stock, then consumed by future sales). Select Exclude Sales Forecasts if sales forecasts should not be included by MRP as a demand source when the schedule parameters are used (that is, products will not be made to stock).

Either this field, or the Make to Order field, must be used as a source of demand (however, both may be included as demand.)

See the Appendix for information on using the Forecast application windows to enter sales order forecast information. You can also import forecast figures from outside sources to the Forecast Detail table (fc_fcst_dtl) and the Schedule Forecast Association table (ps_sched_for).

Make to Order

This flag controls if MRP should consider sales orders as a source of demand. The default, Include Sales Orders, applies if you want to include sales orders as a source of demand when these schedule parameters are used. Select Exclude Sales Orders if sales orders should not be included by MRP as a demand source when these schedule parameters are used.

Notes: Either this field, or the Make to Stock field, must be used as a source of demand (however, both may be included as demand).

If you select to Exclude Sales Orders, MRP will not consider when planning. However, MPS will still look at sales orders and consume them into the forecast. This is reflected on the MPS Material Activity Inquiry and report

Unreleased Blanket Order

This flag controls if MRP should consider the items on the blanket purchase order delivery schedule as a source of supply when you run MRP. The default, Exclude Receipt, applies if MRP should not include the projected receipts from the BPO during the run. Select Include Receipt, if BPO scheduled receipts should be included for consideration in the MRP run.

BPO Suggest

This flag controls whether MRP is able to suggest changes to scheduled BPO release quantities. These suggestions may include action messages to change BPO delivery quantities, delivery dates, or suggestions to cancel deliveries altogether. The default, Suggest Changes, indicates that MRP is allowed to suggest changes to released BPO scheduled deliveries. Select Do Not Suggest Changes if MRP should make no suggestions to change BPO scheduled release quantities.

Active Indicator

The default, Active Schedule, marks this schedule for use by MRP. If you do not want a schedule used by MRP or have some other reason you do not want it used, select Inactive Schedule from the list.

In the next three fields which are in the Time region you will specify parameters to which MRP refers. MRP refers to the time fences and the horizon when considering replenishment suggestions; it makes recommendations only for the period within the time fences you specify.

MRP will not suggest replenishment actions before the inner time fence date, or after the outer time fence date. It will also ignore any activity scheduled after the MRP horizon date.

Based on demand due dates and planned supply actions, MRP calculates available inventory and back schedules the resulting net requirements. The shop calendar influences when transfer, production, or purchase of items should be initiated.

Time Region

Inner

The setting of the inner time fence indicates that nothing should be suggested for planning by MRP behind a particular date. Enter the number of days from the MRP run date during which MRP will suggest no supply orders (zero is the default). For example, if you run MRP on the first day of the month, and you do not want resupply orders suggested before the 5th, enter "4".

If action is required before the inner time fence date, MRP normally suggests starting the resupply action at the inner time fence date. If it adds the item's leadtime to the date of the inner time fence, then forward schedules to calculate the date the item will be available. Exception messages are generated if an action needs to take place behind the inner time fence to meet demand. MRP also generates an error message indicating that there will be a shortage for the period between the due date, and the actual available date.

Timefences do not have to be the same for all organizations that use this schedule. In the bottom area of the window you can associate this (default) number of days to individual organizations, or change the inner fence for each individual organization.

Outer

The setting of the outer time fence indicates that nothing should be suggested for planning by MRP outside a particular date. Enter the number of days from the inner time fence date after which MRP will suggest no supply orders (9999.999 is the default). For example, if you run MRP on the first day of the month, you entered "4" for the inner time fence, and you do not want resupply orders suggested for after the 20th of the month. If you enter "20" in this field, MRP will confine suggestions for resupply orders to the period between the 5th and the 20th (15 days).

Typically you would set this value to be greater than your longest leadtime.

Outer time fences do not have to be the same for all organizations that use this schedule. In the bottom area of the window you can associate this (default) number of days to individual organizations, or change the outer fence for each individual organization.

MRP Horizon

The number of days you specify here determines the date after which pending inventory transactions will not be considered by MRP when making calculations for resupply suggestions. The default is 9999.999.

For example, if you run MRP on the first day of January, and you want MRP to consider all pending inventory transactions for the upcoming six months when calculating resupply suggestions, enter "180" days (6 months "times" 30 days).

When calculating inventory resupply, MRP will not consider any pending inventory transactions with a transaction date after the 180th day from January 1st.

Buckets

Note: You should make sure that your calendar has been defined to cover the period of the MRP horizon. You will get an error message if it does not.
--

The entries you make in next four fields determine how supply and demand will be bucketed on your MPS and MRP Bucketed Material Activity Reports. You can review bucketed material activity for a specific number of days, weeks, months, and quarters. The buckets are cumulative and determine the limit of your view

Four time buckets will fit on a single page.

Days

Enter the number of one-day increments for which you want a Bucketed Material Activity Report. For example, if you want to see material activity for each day for the next fourteen days, enter "14". The default is zero.

Weeks

Enter the number of one-week increments for which you want a Bucketed Material Activity Report. For example, if you want to see material activity for each week for the next four weeks, enter "4". The default is zero.

Months

Enter the number of one-month increments for which you want a Bucketed Material Activity Report. For example, if you want to see material activity for each month for the next two months, enter "2". The default is zero.

Quarters

Enter the number of one-quarter increments for which you want a Bucketed Material Activity Report. For example, if you want to see material activity for the next quarter, enter "1". The default is zero.

Schedule Details**Organization**

This field allows you to link one or more organizations (which have been defined as manufacturing plants) to this schedule. Enter the code for the plant to which you are linking this schedule.

Calendar

Enter the code for the shop calendar that will be used for this plant / organization combination. The corresponding calendar description displays from the Shop Calendar window.

Calendar Description

When you enter the calendar code in the previous field, the corresponding calendar description displays.

Organization

The description of the organization specified in the previous Organization field displays automatically.

Inner Time Fence

Enter the number of days from the MRP run date during which MRP will suggest no supply orders (zero is the default). For example, if you run MRP on the first day of the month, and you do not want resupply orders suggested before the 5th, enter "4".

Outer Time Fence

Enter the number of days from the inner time fence date after which MRP will suggest no supply orders (9999.999 is the default). For example, if you run MRP on the first day of the month, you entered "4" for the inner time fence, and you do not want resupply orders suggested for after the 20th of the month.

Inner Timefence - Additional Discussion

The principles of how the inner time fence works are discussed.

Inner Time Fence and Demand Dates

The demand that occurs before the inner time fence includes past due demand. The demand and the planned supply, which includes planned batches and purchase orders, is considered in the calculation of the net requirement. Utilizing any onhand quantities available, the demands, and the planned supplies, the net requirement is calculated and a suggestion, if needed for resupply is recorded. The message produced will be an exception and start and completion date will be that of the inner time fence.

Insufficient Leadtime/Exceptions

The demand which occurs on or after the inner time fence will have messages as follows. When there is an insufficient amount of time to satisfy the leadtime in relation to the inner time fence, an exception message will be produced. The resupply suggestion will have the leadtime set to the elapsed time between the demand date and the inner time fence. The start date is the inner time fence and completion dates will be demand date. If there is a enough time to satisfy the demand MRP plans as expected and generates regular action messages and suggestions will be produced, such as Release Production Batch, etc.

Inner Timefence and Reorder Rules

Each item / warehouse combination has three replenishment / reorder process options: transfer, production and purchase. If the indicator is on for each respective replenishment type, the time fences for those reorder rules will be used to locate the maximum for inner time fence and the minimum for the outer time fence.

If the production indicator is on, the schedule, schedule organization and production rules are used to calculate the inner and outer fences. If the purchase indicator is on, the schedule, schedule organization and warehouse rules will be used to calculate the inner and outer fences. If the production indicator and transfer indicator are on, the schedule, schedule organization and production rules and transfer rules will be used to calculate the inner and outer fences.

Inner Timefence and Safety Stock

Safety stock is calculated dynamically at the inner fence for an item and warehouse. The past due demand and replenishment is considered along with onhand inventory before the safety stock is looked at. If there is any demand behind the inner time fence, that demand will be met then the safety stock will be considered.

Note: Safety stock is only calculated at the inner time fence if there is activity for the item on or after the inner time fence.

Defining Warehouse Rules and MRP

This section discusses the warehouse rules that you must define for each item for which MRP will plan. Of particular interest for MRP purposes are the discussions of safety stock and reorder point quantities, and the number of days of stock supply you want for a MRP-planned item. Also note the discussion of warehouse transfers (under *Additional Discussions*), and especially "forced" warehouse transfers.

- This section discusses the following topics:
- Setting Up Warehouse Rules for MRP
- Days Supply
- Replenishment Methods
- Setting Up Warehouse Transfer Rules for MRP
- Assigning a Schedule to a User
- Multiple Organizations

Defining Warehouse Rules Procedure

You must establish warehouse rules for each item to be planned by MRP. The Warehouse Rules window allows you to enter the item reorder rules for each specific warehouse. Two fields on the Warehouse Rules window apply specifically to MPS and MRP, and must be defined before you can run MRP, Safety Stock and Days Supply fields. These two fields will be discussed. See the *Oracle® Process Manufacturing Inventory Management User's Guide* for complete window discussions.

1. Navigate to the **Warehouse Rules** window.
2. When you complete the fields on the Warehouse Rules window, be sure to complete the **Safety Stock** and **Days Supply** fields as described. You must also indicate if the item (in this warehouse) is purchased, produced (manufactured), or transferred from other warehouses when replenishment is needed.
3. Save the window.

See: Oracle Process Manufacturing Inventory Management User's Guide for entry procedures and field descriptions.

Warehouse Rules Window - Fields Relating to MRP

Safety Stock Field

Safety stock is that level of inventory that enables you to cover unexpected changes in supply and / or demand (for make-to-order shops, this safety stock quantity may be zero). It is important that you establish a safety stock level for each item and warehouse in which you have planning interests.

Net safety stock requirements drive MRP; safety stock quantities are those quantities needed to bring onhand inventory balances up to the safety stock level. The primary job of MRP is to suggest ways of maintaining safety stock levels at all times. MRP does this by suggesting stock transfers between warehouses, production of necessary items, and purchase of items. It may also suggest to reschedule, or cancel, specific activities in order to keep safety stock at appropriate levels.

Keeping safety stock onhand reduces the chances of inventory stock-outs and missed shipments to customers. If you are maintaining safety stock all of the time, you have a better chance of meeting customer demand on time.

Days Supply Field

This field indicates the number of days worth of inventory you want to stock in addition to the safety stock quantity. This differs from the safety stock quantity in that the days supply fluctuates based on demand.

Note that if you set warehouse rules for an item in more than one warehouse, the safety stock levels from all warehouses will be added together to produce a safety stock grand total.

Replenishment Fields

In addition to the fields on the Warehouse Rules window, there are three other fields that relate directly to MRP. These check boxes indicate to MRP how an item is to be replenished (transfer, production, or purchase) in a specific warehouse in order to meet safety stock requirements. At least one of the following three fields must be set in order for MRP to function properly.

Purchase Check Box

Select this box if you want MRP to suggest purchase of the item when stocked in this warehouse. MRP will consider the purchase reorder rules you establish on the Warehouse Rules window when suggesting replenishment.

Produce Check Box

Select this box if you want MRP to suggest producing the item when stocked in this warehouse. You must then enter rules on the Inventory Control application's Production Rules window.

Transfer Check Box

Select this box if you want MRP to suggest transferring the item when stocked in this warehouse. You must then enter rules on the Inventory Control application Warehouse Transfer Rules window.

Note: The order in which MRP will try to replenish will be Transfer, then Product then Purchase. These rules will override those you entered on the Warehouse Rules window (production rules will be considered before warehouse rules).
--

MRP will consider the manufacturing reorder rules you establish on the Production Rules window, and will generate planned production suggestions to meet safety stock requirements. Enter the item and the plant (organization) that produces the item in the appropriate fields.

Days Supply - Additional Discussion

Net Required at the time of demand is used as the start of days supply.

The number of days entered in the Warehouse Rules window for an item / warehouse tells MRP to look forward that number of days for demand. As MRP searches forward, it starts with the net requirement at the time of demand and then it accumulates all of the demand needs until the transaction date is greater than the current transaction date plus the Days Supply value. The accumulated demand plus the safety stock is compared to the onhand quantity and the difference is used to make suggestions for resupply (if enough inventory exists no suggestion is made). The planned supply transactions during this time would be ignored, and this is done under the assumption that any demand for the Days Supply timespan is to be planned for each time.

The following cases illustrate the results when utilizing a Days Supply setting:

Case 1 - Basic Calculation - No Inventory or Safety Stock

Legend

s is sales order.

b is scheduled batch.

p is scheduled purchase order.

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Doc qty	n/a	10	n/a	20	n/a	n/a	n/a	30s	n/a	n/a	40s	n/a	n/a	n/a
Net req	n/a	10	n/a	30	n/a	n/a	n/a	60	n/a	n/a	100	n/a	n/a	n/a

Lead time is 1.

Reschedule period is 4.

Days supply is 3.

Onhand inventory is 0

Safety stock is 0

Results:

Day 0PPRD30Release Batch

Day 6PPRD70Release Batch

MRP reaches the demand on Day 1 for 10, and then adds 3 days on to its date and looks for other demand for resupply. On Day 3 an additional demand for twenty is found and a batch is suggested for 30 to meet the demand for the days supply interval. The MRP process then moves on to the next demand of 30 on Day 7. The demand on Day 3 for 20 has already been met with the days supply calculation, thus the next demand for replenishment is on Day 7. 3 days are added to the demand on Day 7 looking for additional demand, and on Day 10 there exists a demand for 40. The net requirement on Day 7 is 30, and when the demand from Day 10 is included the net requirement becomes 70. A batch for 70 is planned for Day 6 to meet this days supply interval.

Case 2 - Basic Calculation with Existing On-hand Inventory**Legend**

s is sales order.

b is scheduled batch.

p is scheduled purchase order.

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Doc qty	n/a	10	n/a	20	n/a	n/a	n/a	30s	n/a	n/a	40s	n/a	n/a	n/a
Net req	n/a	0	n/a	30	n/a	n/a	n/a	60	n/a	n/a	100	n/a	n/a	n/a

Lead time is 1.

Reschedule period is 4.

Days supply is 3.

Onhand inventory is 10.

Safety stock is 0.

Results

Day 2 PPRD 20 Release Batch

Day 6 PPRD 70 Release Batch

MRP reaches the demand on Day 1 for 10, and this is met by the onhand inventory. The demand on Day 3 is found with a net requirement and MRP then adds 3 days on to its date and looks for other demand for resupply. Since there are no other demands in the range a batch is suggested for 20 to meet the demand for the days supply interval. The MRP process then proceeds to the next demand of 30 on Day 7. The demand on Day 3 for 20 has already been met with the days supply calculation, thus the next demand for replenishment is on Day 7. Three days are added to the demand on Day 7 looking for additional demand, and on Day 10 there exists a demand for 40. At this time the net required quantity would become 70. The net requirement on Day 7 is 30, and when the demand from Day 10 is included the net requirement becomes 70. A batch for 70 is planned for Day 6 to meet this days supply interval.

Case 3 - Basic Calculation with On-hand & Safety Stock

Legend

s is sales order.

b is scheduled batch.

p is scheduled purchase order.

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Doc qty	n/a	10s	n/a	20s	n/a	n/a	n/a	30s	n/a	n/a	40s	n/a	n/a	n/a
Net req	n/a	30	n/a	50	n/a	n/a	n/a	80	n/a	n/a	120	n/a	n/a	n/a

Lead time is 1.

Reschedule period is 4.

Days supply is 3.

Onhand inventory is 10.

Safety stock is 30.

Results

Day 0 PPRD 20 Release Batch

Day 0 PPRD 30 Release Batch

Day 6 PPRD 70 Release Batch

MRP reaches the demand on Day 1 for 10, and recognizes that the need exists to resupply for safety stock. A batch is suggested on Day 0 for a quantity of 20 and with the onhand inventory of 10, the safety stock requirement of 30 is met. MRP then attempts to satisfy the Day 1 demand and adds 3 days on to its date to look for other demands for resupply. On Day 3 an additional demand for 20 is found and a batch is suggested for 30 to meet the demand for the days supply interval. The MRP process then proceeds on to the next demand of 30 on Day 7. The demand on Day 3 for 20 has already been met with the days supply calculation, thus the next demand for replenishment is on Day 7. Three days are added to the demand on Day 7 looking for additional demand, and on Day 10 there exists a demand for 40. The net requirement on Day 7 is 30, and when the demand from Day 10 is included the net requirement becomes 70. A batch for 70 is planned for Day 6 to meet this days supply interval.

Case 4 - Calculation with Inventory and Planned Batch

Legend

s is sales order.

b is scheduled batch.

p is scheduled purchase order.

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Doc qty	n / a	10	20b	20	n / a	n / a	n / a	30s	n / a	n / a	40s	n / a	n / a	n / a
Net req	n / a	30	10	30	n / a	n / a	n / a	60	n / a	n / a	100	n / a	n / a	n / a

Lead time is 1.

Reschedule period is 4.

Days supply is 3.

Onhand inventory is 10.

Safety stock is 30.

Results

Day 0 PROD 20 Move / Resize Batch

Day 0 PPRD 30 Release Batch

Day 6 PPRD 70 Release Batch

MRP reaches the demand on Day 1 for 10, and recognizes that the need exists to resupply for safety stock. The batch that falls on Day 2 is recommended to be moved, and with the batch's quantity of 20 being added with the onhand inventory of 10 the safety stock requirement is met. MRP then attempts to satisfy the Day 1 demand and adds 3 days on to the Day 1 demand date to look for other demands for resupply. On Day 3 an additional demand for 20 is found and a batch is suggested for 30 to meet the demand for the days supply interval. The MRP process then moves on to the next demand of 30 on Day 7. The demand on Day 3 for 20 has already been met with the days supply calculation, thus the next demand for replenishment is on Day 7. Three days are added to the demand on Day 7 looking for additional demand, and on Day 10 there exists a demand for 40. The net requirement on Day 7 is 30, and when the demand from Day 10 is included the net requirement becomes 70. A batch for 70 is planned for Day 6 to meet this days supply interval.

Case 5 - Calculation with MRP Recommended Batches

Legend

s is sales order.

b is scheduled batch.

p is scheduled purchase order.

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Doc qty	n/a	10s	20b	20	n/a	n/a	n/a	30s	30s	n/a	40s	n/a	n/a	n/a
Net req	n/a	10	-10	10	n/a	n/a	n/a	40	n/a	n/a	80	n/a	n/a	n/a

Lead time is 1.

Reschedule period is 4.

Days supply is 3.

Onhand inventory is 0.

Safety stock is 0.

Results

Day 0 PPRD10 Release Batch

Day 0 PROD30 Move/Resize Batch

Day 6 PPRD70 Release Batch

MRP reaches the demand on Day 1 for 10 and adds 3 days on to its date to locate any other demands for resupply. On Day 3 an additional demand for 20 is found and the batch that falls on Day 2 is recommended to be moved and resized by the net requirement of 30. In addition to the move a batch of 10 is suggested. The MRP process then moves on to the next demand of 30 on Day 7. The demand on Day 3 for 20 has already been met with the days supply calculation, thus the next demand for replenishment is on Day 7. Three days are added to the demand on Day 7 looking for additional demand, and on Day 10 there exists a demand for 40. At this time the net required quantity would become 70. The net requirement on Day 7 is 30, and when the demand from Day 10 is included the net requirement becomes 70.

Defining Warehouse Transfer Rules and MRP

MRP will consider the warehouse transfer reorder rules you establish on the Warehouse Transfer Rules window when suggesting replenishment to meet safety stock requirements.

If you want MRP to suggest warehouse transfers of the item when stocked in this warehouse, you must do the following:

1. Select the **Transfer** checkbox in the **Sources** panel on the Warehouse Rules window.
2. Enter the warehouse transfer rules on the **Warehouse Transfer Rules** window.

On the Warehouse Transfer Rules window you establish the demand (target) and supply (source) warehouses to which and from which OPM will transfer stock to replenish shortages of a specified item. However, OPM will consider pending inventory transactions for the item, then determine if the quantity debit from those transactions, plus the transfer debit quantity, would result in the item quantity falling beneath the safety stock level.

OPM will not allow the transfer if it will cause inventory in the source warehouse to fall beneath the safety stock quantity. The quantity to be transferred from the source warehouse must be in excess of the safety stock quantity).

If the Transfer field on the Warehouse Transfer Rules window is set to Full Quantity, OPM will not allow the transfer of stock from a source warehouse if that transfer would result in the stock quantity in the source warehouse falling beneath the safety stock quantity (except for forced demand transfers).

Dependent Demand Transfers

Dependent demand is created when a plant manufactures a product (for example, an intermediate) that is used by another manufacturing plant in the manufacture of a finished good. The plant that produces the finished product (the target warehouse) passes its requirement (for the intermediate product) to the plant that produces the intermediate (the source warehouse). The demand for the intermediate is therefore "dependent" on the demand from the target warehouse.

Forced Demand Transfers

A forced demand transfer is one that OPM allows to occur for an item between specified warehouses, even if that transfer results in the stock quantity in the source warehouse falling beneath the safety stock level. Forced demand transfers may even occur if the transfer would result in the source warehouse having a negative balance of the specified item.

The demand is forced on the source warehouse, regardless of the impact on that warehouse's stock levels.

The Transfer flag on the Warehouse Transfer Rules window controls whether OPM will allow these forced demand transfers of stock from the source warehouse. Note the window illustration that is shown.

You must select Full Quantity - Force from the Transfer list to establish a forced warehouse dependent demand relationship between the specified item, the source warehouse, and the target warehouse. This, in essence, establishes the source warehouse as having infinite onhand inventory of the specified item.

The default, Full Quantity, applies if OPM will not allow forced demand transfers of the item between the two stated warehouses. Also, if the source warehouse is a production plant, OPM will not force production from that plant to satisfy the demand from the target warehouse.

Forced Transfers - Specific Items Only

By leaving the Item field blank on the Warehouse Transfer Rules window, you can establish default transfer rules. These rules apply to all items that are transferred between the two designated warehouses.

Forced warehouse transfers are not allowed for default warehouse rules; the Transfer field displays Full Quantity (No forced transfers allowed), and you cannot access the field.

Inverse Forced Transfers Not Allowed

For any single item, you can only flag for a forced transfer from the source warehouse to the target warehouse. You cannot flag for forced transfers for the reverse (that is, a forced transfer from the target warehouse to the source warehouse).

Example

The planner selected Full Quantity - Force Transfer for a forced warehouse transfer from a source warehouse WHS4 to target warehouse WH1. If they subsequently tried to enter a new set of transfer rules for the item, with WHS1 as the source warehouse, and WHS4 as the target warehouse, OPM would permit it.

However, OPM would not allow you to flag for forced transfers with WHS1 as the source warehouse, and WHS4 as the target warehouse. The Transfer field will display Full Quantity (indicating no forced transfer is allowed) and you will not be able to access this field.

This is because WHS4 has already been flagged as a *source* warehouse for forced transfers of the designated item.

Manual Schedule Transfers

Manual Schedule is just that, the user must perform the plan themselves and MRP will not attempt it. Lot for Lot tells MRP to use the net requirement for the size, or in other words the full quantity to be replenished.

Economic Order Quantity

Economic Order Quantity uses a multiple of the standard quantity, to be discussed later, which is equal to the net requirement or the next highest multiple of the standard quantity. For example if the standard quantity = 10 and the net requirement = 25, the total transfer quantity would be 30. To further refine the transfer the user can select the method for transfer, Full Quantity, Full Quantity - Forced (forced transfer), and Partial Quantity.

Full Quantity Transfers

Full Quantity tells MRP that the entire net requirement must reside at the Source warehouse for a transfer to be planned to the Target warehouse. The Forced transfer ignores what quantities are at the Source warehouse and plans the transfer to the Target warehouse for the net requirement.

Partial Quantity Transfers

A Partial Quantity transfer allows for a portion of the net requirement to be met by a warehouse. If a Source warehouse does not have the full quantity available, whatever is available will be planned for a transfer to the Target warehouse. If there are more warehouses which are available for transfer consideration, they will be checked also until the net requirement is met, and if not met another method of replenishment is attempted.

Preference

One of the more important settings is the Preference. This will be key in the order scheme of the possible warehouses for transfers. The basics of the setting is the lower the number for the preference the higher the importance. Since transfers is another method for replenishment it has associated with it a leadtime and quantity specifications.

Leadtimes

The leadtime contains two varieties, fixed and variable. When combined together they make the total leadtime required needed to execute a transfer. The fixed leadtime, in days, will be used each time a demand is met using a particular source warehouse. The variable leadtime, in days, will be used for each transfer planned. To calculate the variable leadtime the quantity of the transfer is divided by the standard quantity and that result is multiplied by the variable leadtime days from the rules. By adding the fixed and variable leadtime the result is the total variable leadtime for that transfer. In most cases the fixed gets added to the total variable and that results in the total leadtime for the transfer, but this is altered when sizing limitations force the transfer to be executed in multiples at a warehouse. In that case the fixed leadtime is added to the first transfer only and all of the of the transfers use the appropriate variable leadtime.

Timefences

The inner and outer timefence can be set in the rules for transfer. The settings will be incorporated into the calculation of the inner and outer timefence for an item and warehouse. Please refer to the document time_ss.doc for further explanation of the calculation.

Size of the Transfer

The sizing settings are Minimum, Maximum and Standard quantities. The Minimum sets the smallest quantity that be used for a transfer at that warehouse for that item. The Maximum sets the greatest quantity that can executed in a single transfer. If the net requirement is greater than the maximum setting multiple transfers from that warehouse will need to be suggested. The Standard quantity as stated previously is used to calculated the EOQ quantity and the variable leadtime.

MRP Execution of the Transfer Rules

The MRP planning process has a specific methodology in which it generates a plan for the schedule being used. To quickly overview, the process goes item by item according to the order from the bill level explosion. The items are then processed two different ways by date or warehouse.

The processing method is individual to each item depending on the rules that have been employed. As a standard, the transactions, existing and planned demands and replenishments, will be traversed by a date order starting with the past and ending last transaction in the future. The plan will be developed as time goes on regardless of the warehouses involved. The exception to that occurs when the item, as part of its rules, contains a rule that sets up a the possibility of doing a forced transfer. If this is the case the transactions are traversed using warehouse then date inside of that subset for the item. The order of the warehouses for the item is decided by the priority being applied to the warehouses which are a target of a forced transfer. For example there is a forced transfer rule for item A between warehouse 1 & 2, where warehouse 2 is the target warehouse, the transactions for warehouse 2 would be traversed then those of warehouse 1

Whatever way the transactions are processed, the transfers are treated the same as to the logic. The MRP process searches for all of the warehouses (source) that can be used and then finds the transfer rules associated with the target warehouse. The planned inventory balance at the time of the demand is calculated for each source warehouse. The source warehouses that are part of a rule that is a forced transfer have their balance set to the largest value that can be contained in a DOUBLE in the C language. This will tell the process that there is an infinite supply for the item at the warehouse. The warehouses are then ordered by preference in ascending order and then by quantity in descending order. The quantity ordering will put the forced transfer warehouses higher on the list when the preferences are the same. The warehouses are then looped through and the process decides what transfer if any can be planned. If the rule is full quantity, the warehouse balance must be at least equal to the requirement. If the rule is partial quantity, the available warehouse balance will be used to meet the demand. If the rule is forced transfer, the demand will always be met by this one transfer even if inventory does not exist there. MRP will attempt to replenish that demand when the process reaches that warehouse (as described earlier). Depending on the sizing rules one or more transfers may occur from one warehouse for a particular demand, as described earlier in the setup section. If after a transfer(s) from a warehouse the quantity is insufficient to meet the demand, as could be the case with partial transfers, the next warehouse is selected to meet the remainder of the demand.

If the warehouses meet the demand the process will continue on to the next demand, but if they do not, the process will try another replenishment method, production or purchasing, if the rules allow it. If the rules do not allow the demand to be satisfied, an exception and error message will be displayed

Results

The planned transfer is recorded in the MRP transactions and the action messages (suggestions). Both will be denoted with the document type of PTRN. The item, warehouses involved and the quantity will be part of transactions and action messages. The action messages can be recorded two ways, normal and exception. If the leadtime is affected by the inner timefence the action message will be denoted as an exception, otherwise the messages are normal. If there was any error, it will be recorded in the error message table.

Assigning a Schedule to a User

You may assign both a default organization and a default set of schedule parameters to each user (planner) who will be running MRP. The organization code/schedule parameters code combination becomes a "key" by which the schedule parameters are recognized throughout OPM. This organization/schedule parameters combination also becomes the default on all MRP windows.

OPM allows each user to select the organization and schedule parameters combination for which he/she will run MRP.

This section discusses the following topics:

- Linking the Planner (user) With the Appropriate Organization and MPS Schedule Parameters
- Schedule Parameters and Multiple Organizations

Linking Schedule Parameters to User

After you have defined the desired schedule parameters, you must associate them with the appropriate planner (referred to as the "user" for this discussion). A user can have only one set of schedule parameters linked to him/her at a time (although a schedule may be shared among many users).

User codes are linked to default schedules through User Profiles in the Oracle Applications System Administration Application.

Schedule Parameters Assignment - Multiple Organizations

As a planner, you may have responsibility for scheduling material activity for many organizations within your corporation. As described earlier in this section, you specify an organization code and a schedule parameters code on the Operator window, and these become defaults on reports, inquiries, and other windows in MRP.

This does not mean that the planner is restricted during the processing session to only the default organization and default schedule parameters. OPM allows each user to generate MRP runs and produce reports for a range of organizations (organizations to which he/she has already been linked). This is referred to as Multiple Organizational Access.

Also, the planner can run MRP and reports based on any combination of (valid) organization codes and schedule parameters. Each set of schedule parameters the planner uses to generate MRP and the related reports must be accompanied by the valid organization code over which he / she has access. This combination windows a unique "key" which identifies the schedule parameters throughout the MRP generation and report process.

You must link the organizations to the planner / user on the User Organization window. Here you indicate the list of organizations over which the user has planning authority.

Change the Planner's Default Organization and Schedule Parameters

The default organization and schedule are changed in User Profiles in the Oracle Applications System Administration application.

Change the Default Organization for the Current Session Procedure

1. Navigate to the **Session Parameters** window.
2. Enter the desired organization code in the **Organization** field under **Default Values**. Only those organizations that were linked to the user (on the User Organizations window) are valid on the **Session Parameters** window. When you change the default organization, the schedule parameters code that displayed in the **Schedule** field is cleared.
3. In the **Schedule** field, specify the schedule parameters code that will be the default for the user when he or she is performing planning in the newly-specified organization. If you choose not to have a default schedule parameters code display on MRP windows during this session, leave the Schedule field blank (entry of a schedule parameters code will then be required on MRP windows).

Until you log out of OPM, or change the defaults again, the default organization and the schedule parameters code will be tandem defaults on the MRP windows. You will have the option of changing the default organization, and schedule parameters code, on the Session Parameters window. However, the organization specified must be one that is already linked to your user code (on the User Organization window).

Material Requirements Run

MRP compares inventory supply to demand, then makes suggestions to keep them in balance. MRP considers finished goods, raw materials, intermediate products, coproducts, byproducts, and packaging materials when making its suggestions.

MRP looks at pending inventory transactions, applies demand to current stock balances, and projects what the inventory balance will be on specific dates (if you, as the planner, act on the MRP suggestions).

The following topics are discussed:

- MRP "Bill of Materials"
- Running MRP
- BPOS and MRP Considerations

MRP "Bill of Materials"

Finished goods in OPM are comprised of lower-level ingredients that are tied together by formulas. These formulas are "recipes" that define the contents and quantities of ingredients. These ingredients are combined to produce finished goods, byproducts, and coproducts.

MRP creates a "bill of material" (bom) for all finished products. The bill includes the intermediate products and raw material ingredients that comprise the finished good formula. The bill level refers to the level, or position of the intermediate or the ingredient item in the bill of material (formula).

MRP Explosion

When you run MRP, OPM "explodes" the finished good formula to determine demand for the intermediate products and ingredients within. MRP then makes suggestions for purchase, transfer, or production of these intermediate products and raw materials. Each demand for an item at a specific bill level creates demand for the items in the level below it. OPM adds up all instances of an ingredient in the bill of materials, then calculates the total required quantity.

MRP and Blanket Purchase Orders

As discussed in *Setting Up MPS Schedule Parameters*, a flag on the Schedule Parameters window lets you determine if MRP should consider (as potential supply) scheduled deliveries against blanket purchase orders. Rather than suggesting that new purchase orders be created, MRP would produce action messages suggesting releases against a blanket purchase order delivery schedule to fill upcoming material requirements. You can also flag MRP to suggest changes in the BPO delivery quantity and/or date.

This section discusses the following topics:

- Running MRP
- Blanket Purchase Orders and the MRP Run

Running MRP

The MRP Run window allows you to submit a batch job to initiate a MRP run. Since MRP runs can take varying lengths of time (depending on the size of your inventory / formula database), you have the option of initiating the batch job for the run now, or at a later date and time. In either case, OPM returns control of your terminal to you immediately after you schedule the run.

Some fields on the MRP Run window are display only and are updated by OPM. If you are currently initiating a new MRP run, and you want to display the most recent status of that run, you must select **NEW** from the Actions menu.

Running MRP Procedure

1. Navigate to the **MRP Run** window.
2. Confirm the organization schedule for which you are initiating a MRP run.
3. Press **Return**. This populates the fields with any available MRP Run data.
4. Select **NOW** or **QUEUE** from the **Queue** list.
5. Save the window. A message box displays with the message, Please note the Current Request Id generated NNNN. At this box, click **OK**.
6. Save the window. This initiates the MRP run or puts it into a batch queue.

The window displays a history of previous MRP runs for your reference.

MRP Run Window Field References

[]

The double brackets identify a descriptive flexfield that you can use to add data fields to this window without programming.

Organization

This field displays the default organization you assigned to the user (planner) on the User Organization window.

If the user is able to do planning in more than one organization, you may override this default with another organization code (that is, one that has been linked to the planner on the User Organization window, also from the OPM System application).

Schedule

If the default organization for the current user is displayed in the previous field, the default schedule parameters code assigned to you displays, along with the corresponding schedule parameters description. You may enter a different schedule parameters code, as necessary. The organization code and the schedule parameters code are both required to identify the schedule parameters being used to generate the MRP run.

Note that if you entered an organization other than the default in the previous field, the default schedule parameters code in this field will be blanked out. You must then enter the valid code for the schedule parameters against which the MRP run will be generated.

At this point, press the Return key. The bottom portion of the window displays all of the MRP runs that have been processed, with the latest runs displayed first.

Queue

If you intend to schedule the batch job for the MRP run to begin at a later time, proceed to the Batch Date field. Select "NOW" to initiate the batch job for the run immediately upon saving the window.

Batch Date

If you selected Queue in the previous field, enter the date and time the batch job for the run will begin. The date and time *must* both be entered.

Actual Start

This is the date the MRP run was actually started. OPM automatically updates this field.

Actual End

The date the run was completed displays. OPM automatically updates this field.

Status

OPM updates and displays the ultimate status of the MRP run (that is, what eventually happened to the run). The MRP run is in one of the statuses listed.

- Wait - The batch job for the run is stuck in a wait status; call your system administrator if this status remains unchanged after an inordinate length of time.
- Fail - MRP failed to load data properly.
- Run - MRP is now running.
- Stop - A data problem interrupted the run; check the MRP error messages.
- Completed - The batch job for running MRP was completed successfully.

Run By

The code for the user (planner) who initiated the run displays.

Approved By

If the conversion of MRP action messages into resupply orders was approved, OPM displays the user code for the person who approved the conversion. You approve the run using the Approve Run option from the Action menu or click Approve.

MRP Run Window - Buttons

Approve Run

Click this button to approve the current MRP run.

Remove MRP Data

Click this button to remove the MRP data on which you have your cursor position.

MRP Run - What to Do Next

After the MRP run has completed, but before you approve it:

1. Check the **Error Messages** report. See the *MRP Error Messages* section.
2. View the **Bucketed Material Activity** inquiry data. See the *Bucketed Material Activity* section.

3. Check the **Action Messages** window. See the *Action Messages* section.

If everything looks ok, then you:

1. Approve the run.
2. Approve action messages and act on MRP suggestions as applicable. See the *Action Messages* section.

BPOS and MRP Considerations

The example below illustrates how MRP considers BPOs when planning material requirements. The table indicates quantity data, by date, for several different categories if blanket purchase orders are considered by MRP.

BPOs and MRP - Basic Item Data

Item	X-100-010
Beginning Onhand Balances	5,000 units
Safety Stock	5,000
Current Date	3 / 1 / 1994
Lead Time	2 Days

BPOs and MRP - BPO Data

Dates 1 / 1 / 94 through 12 / 31 / 94.

Total Allocation is 200,000.

Standard Release Quantity is 20,000.

Maximum Release Quantity is 20,000.

Description	3/1/94	3/2/94	3/3/94	3/4/94	3/5/94
Demand	10,000 (Demand from sales orders / batches)	n / a	n / a	20,000 (Demand from sales orders / batches)	n / a

Description	3/1/94	3/2/94	3/3/94	3/4/94	3/5/94
Open POs (Released BPOs)	10,000 (Anticipated stock from PO or release of scheduled BPO)	n / a	n / a	n / a	n / a
Scheduled BPO Delivery	n / a	n / a	n / a	20,000 (Delivery of BPO quantity - see MRP suggestion on 3/2/94)	n / a
Ending Balance	5,000 (Demand of 10,000 satisfied by anticipated receipt of PO or BPO quantity of 10,000 - leaves original onhand quantity of 5,000)	5,000 (No demand and no scheduled receipts today; the previous day's balance remains unchanged)	5,000 (No demand and no scheduled receipts today; the previous day's balance remains unchanged)	5,000 (Demand of 20,000 is met by receipt from BPO, leaving safety stock quantity as ending balance)	5,000 (No demand or receipts - ending balance is the safety stock quantity)
Net Requirement	0 (Since a quantity of 5,000 exists, and this is the safety stock quantity, there are no net requirements)	0 (Since a quantity of 5,000 exists, and this is the safety stock quantity, there are no net requirements)	0 (Since a quantity of 5,000 exists, and this is the safety stock quantity, there are no net requirements)	0 (Since a quantity of 5,000 exists, and this is the safety stock quantity, there are no net requirements)	0 (Since a quantity of 5,000 exists, and this is the safety stock quantity, there are no net requirements)

Description	3/1/94	3/2/94	3/3/94	3/4/94	3/5/94
MRP Suggestion	n / a	Release BPO for 20,000 to arrive on 3/4/94; this to meet demand for 20,000 on 3/4/94 - item has a two-day leadtime	n / a	n / a	n / a

MRP Error Messages

The Error Message inquiry lists warnings and errors from the last MRP run that do not cause the run to fail, but indicate situations that may require action before you approve the run.

This chapter discusses the following topics.

- Viewing Error Messages Online
- Running a Printed Error Messages Report.
- MRP Error Messages - Circular References
- MRP Error Messages
- MRP Error Messages - Additional Discussions

Viewing MRP Error Messages

After the MRP run has completed, but before you approve it, you should check the Error Messages report. This report lists warnings and errors from the last run that do not cause the MRP run to fail, but indicate situations that may require attention before you approve the run. You can view the report, or print it by selecting the appropriate option from the Report menu.

Viewing MRP Error Messages Procedure

1. Navigate to the **Error Messages** window.
2. Complete the fields as described. The error messages display on the window. You can also print this report out. See the *Reports* section.

Error Messages Window Field References

The last MRP run date and the schedule against which it was run display.

Organization

This field displays the default organization assigned to the user (planner). If the user performs planning in more than one organization, you may override this default with another organization code (that is, one that has been linked to the planner on the User Organization window, also from the System module).

Schedule

If the default organization for the current user is displayed in the previous field, the default schedule parameters window assigned to you displays along with the corresponding schedule description. You may specify a different schedule parameters code, as necessary. The organization code and the schedule parameters code are both required to identify the schedule parameters against which the most recent MRP run was generated.

Note that if you specified an organization other than the default in the previous field, the default schedule parameters code in the **Schedule** field will be blanked out. You must then specify the valid code for the schedule parameters against which the MRP run was generated.

Last Run Date

This field displays the date of the last MRP run and to which these error message apply.

Line

OPM displays a sequential number to each error message.

Message Text

The text of each error message displays. A matrix of OPM MRP error messages is located at the end of the section.

Running the MRP Error Messages Report

The Error Message report option provides a printed listing of the Error Message Query. The dialog box provided lets you select to print error messages for all warehouses and items included in the last MRP run, or restrict the report to a single item and/or warehouse, or a range of items and/or warehouses.

You can print error messages for all items in all warehouses, or restrict the list to error messages generated for one or more items or warehouses. For more information on MRP error messages, see the *Error Messages* section.

You must associate a Planning Class to your user and to each item you wish to have print on a report. If no associations are made the reports will not print any data.

Submitting the Error Messages Report

1. Navigate to the **Submit Requests** window
2. In the **Name** field, enter the **MRP Error Messages Report**, complete any other relevant fields and click **Submit Request**. The Parameters box is displayed.
3. Complete the fields as described.
4. Click **Submit Request**.

The information entered here will also print on the cover page.

MRP Error Messages Report Parameters

Complete the parameters as described.

Organization

Enter the code of the organization for which you want to print the Error Messages report. Required.

Schedule

Enter the code of the schedule for which you want to print the Error Messages report. Required.

From Item

To choose to print error messages for a selected range of items, enter the beginning item code.

To Item

To choose to print error messages for a selected range of items, enter the beginning item code.

From Warehouse

To choose to print error messages for a selected range of warehouses, enter the beginning warehouse code.

To Warehouse

To choose to print error messages for a selected range of warehouses, enter the beginning warehouse code.

MRP Error Messages Report Output**Report Date**

The date that the report was generated.

Organization

The ID code and description for the organization for which the report was run.

Schedule

The schedule and description for which the report was run.

Last MRP Run Date

The date of the last MRP run for the schedule.

Line #

Each error message is listed sequentially.

Message Text

The message indicating the type of MRP error that occurred during the most recent MRP run. See the *Error Message* section for a list of error messages and possible solutions.

MRP Error Messages - Circular References

The Problem

You may find a situation within a formula where there is an ingredient that also appears as a finished good. For example, some bonding agent used as an ingredient during processing of epoxy may be recovered after processing is finished.

If the same item (for example, the bonding agent) appears as both a finished good and an ingredient (more than 1 level deep in the formula), the bill level function of MRP becomes caught in a "loop" (a euphemism for a major problem).

For example, Bonding Agent C is used in making the intermediate, Bonding Agent A. However, some of the Bonding Agent C is also recovered at the end of processing. Because Bonding Agent C appears again more than one level down in the formula, MRP generates a message to indicate that a loop condition exists, and that replenishment suggestions cannot be made for the item #1 Epoxy.

The Answer

Give Bonding Agent C a different item number when used as an ingredient than when it is used as a finished good. This involves defining separate item records for each using the Items window.

MRP permits identical item codes to exist 1-level deep in the formula. For example, if the Bonding Agent C was used in level 2 of the formula, MRP would have no circular reference problem.

MRP Error Messages

Following is a list of the MRP error messages, the reason for the error, and the possible actions to take to resolve the issue. Since each manufacturing set up is unique, we cannot supply you with detailed suggestions. If you cannot resolve the problem, please call Oracle Process Manufacturing Level 1 Support.

A circular reference exists Ingr :item_no1 Prod :item_no2 formula :formula_no

Circular reference: Same item is product and ingredient in the formula definition; or there are two valid formulas and the product of one formula is the ingredient of the other formula and vice versa.

MR_CYCLEITEMS

A date overflow has occurred

Check sy_max_date.

MR_DATE_OVERFLOW

Bill Level generation failed

Bill of material program failed. Check to see if a circular reference exists in the formulas.

MR_BILL_FAIL

Can not transfer :item_no1 from :whse_code1 to :whse_code2 qty :required_qty

Occurs if the Transfer type is Full Quantity-Force for an item in the Warehouse Transfer Rules table and the required quantity is greater than the maximum quantity defined in the Transfer Rule table.

MR_NOXFER

Could not back schedule :item_no1 whse :whse_code1 -- Inner Timefence constraint

Occurs if the inner timefence on the Warehouse Rule for the item is greater than the schedule inner timefence.

MR_SCHDBACK

Could not calculate net_required qty for item :item_no1 in warehouse :whse_code1

Check to see if item or warehouse were marked for purge.

MR_NETREQD

Could not convert Unit of Measure for :item_no1

Check that UOM conversions exist.

MR_UOM_NOCONVERT

Could not find *item_id* :leadtime in item master

Check leadtime in Item master or ingredient information formula.

MR_NOITEM

**Could not find by_product :item_no1 formula :formula_no vers
:formula_vers**

Occurs when you delete the item in the Item Master.

MR_NOBYPARR

**Could not find Co-Product :item_no1 of formula :formula_no vers
:formula_vers**

Check formula for co-product information and run again.

MR_COPRODARR

**Could not find Inner Timefence date :start_date in shop calendar
:calendar_no**

Occurs if the Inner timefence of the Schedule is earlier than the Start Date of the Shop Calendar.

MR_NOCAL_ITF

Could not find starting date :start_date in shop calendar :calendar_no

If the calendar range doesn't cover the Start Date.

MR_NOSTARTDT

Could not get duration of shop day :shopday_no, date :start_date

Check to see if shift times are entered correctly. (For example, are the start and end time of a shift the same?)

MR_NODURN_DAY

Could not get the projected balance qty for item :item_no1, whse :whse_code1

Rerun MRP. If this occurs again, call Oracle OPM Level 1 Support.

MR_PROJBALERR

Could not make purchasing suggestions

Rerun MRP. If this occurs again, call Oracle OPM Level 1 Support.

MR_PURCH_FAIL

Could not make suggestions for :item_no1

Occurs if the item is a ingredient / coproduct / byproduct in a formula and the product is attached to a different warehouse in the warehouse rule and plant-warehouse effectivity tables.

MR_SUGG_FAIL

Could not make Warehouse Transfer for :item_no1 and warehouse :whse_code1

Occurs if there is no on-hand Inventory in the Source Warehouse.

MR_XFER_FAIL

Could not perform UOM conversions - aborting.

Check that UOM conversions exist

MR_UOM_ERR

Could not plan as max_qty == 0 item :item_no1 whse :whse_code1

Occurs if the maximum quantity Warehouse Rules window is 0 and there is a demand for that product.

MR_NO_OF_BATCHERR

Could not Plan Batch item for :item_no1 -- no formula effectivities

If there is a demand for a product and there is no valid formula effectivity setup.

MR_FMEFFERR2

Could not plot dates for action :action_no

The action date is beyond the timefence of the Shop Calendar used for MRP run.

MR_NOPLOTDATE

Could not plot points on shop calendar for item :item_no1 in whse :whse_code1

Check that lead times follow constraints you have set up.

MR_PLOTERR

Could not reproject balance

Rerun MRP. If this occurs again, call Oracle OPM Level 1 Support.

MR_REPROJBAL

Could not reschedule :item_no1 and warehouse :whse_code1

Rerun MRP. If this occurs again, call Oracle OPM Level 1 Support.

MR_RESCHEDERR

Could not retrieve details for calendar :calendar_no

Check to see if the MPS calendar is valid and if the organization is correctly listed.

MR_NODETL_CAL

Could not scale item :item_no1 formula :formula_no orgn :orgn_code

Occurs if one of the ingredients in a formula has a fixed scaling parameter and the action quantity is more than the formula product quantity.

MR_SCALE_FAIL

Could not schedule backward

Attempt to reschedule to an earlier date if it crosses the inner fence; decrease the leadtime. This is normally followed by an exception message.

MR_NOBACKSCHD

Could not schedule forward

Attempt to reschedule the batch to a later date. The postpone failed because of outer timefence. Increase the outer timefence, if desired. Try rescheduling the batch to a later date.

MR_SCHDFORW

Could not select plant for this item :item_no1 warehouse :whse_code1

Check Plant/Warehouse rules.

MR_NOPLANT

Cycles detected, aborting

Check warehouse transfer rules to see if there is a circular reference (continuous transferring between warehouses)

MR_CYCLES

Default item_no or whse_codes not allowed when forced transfer is set

Check warehouse transfer rules to see if you are using a default item and or warehouse. Enter specific item and warehouse codes for forced transfers.

MR_DEFAULTS_USED

Do you want to continue printing for more then 27 periods ?

Indicate Yes or No for continued printing of the MRP Bucketed Material Report.

MR_BKT_CONTINUE

Excessive leadtime for :item_no1 and :whse_code1

Usually occurs with multi-batch runs. Check to see if leadtimes for item and warehouse exceed the allowed maximums.

MR_EXLEADTIME

Forced transfer cycle item :item_no1 from :whse_code1 to :whse_code2

Check warehouse transfer rules to see if there is a circular reference (continuous transferring between warehouses)

MR_CYCLE_WHSES

Forced transfer cycles exist, aborting

Occurs if the transfer type is Full Quantity-Force for an item in the Warehouse Transfer Rules table.

MR_WHSE_ORDER_ERR

Ingredient :item_no1 for product :item_no2 is either deleted or inactive.

Either re-activate the product item or remove it from formulas.

MR_ITEMDEF

Invalid days supply :leadtime in Whse rules :item_no1 whse :whse_code1

The supply is either greater or less than allowed on the Warehouse Rules window.

MR_WHSEINV_BAD_DAYS_SUPPLY

Invalid default schedule found for your user code

Default schedule assigned to the operator is invalid. Assign valid schedule.

MR_BAD_DEFAULT_SCHEDULE

Invalid fixed leadtime :leadtime in Prodn rules :item_no1 orgn :orgn_code

Check that lead times follow constraints you have set up.

MR_PLNTINV_BAD_FIXED_LEADTIME

Invalid fixed leadtime :leadtime in Whse rules :item_no1 whse :whse_code1

Check that lead times follow constraints you have set up.

MR_WHSEINV_BAD_FIXED_LEADTIME

Invalid FLT :leadtime in Xfer rules :item_no1 whse :whse_code1 whse2 :whse_code2

Check that fixed lead times follow constraints you have set up.

MR_WHSEREL_BAD_FIXED_LEADTIME

Invalid inner timefence :leadtime in Prodn rules :item_no1 orgn :orgn_code

Check that lead times follow constraints you have set up.

MR_PLNTINV_BAD_INNER_TIMEFENCE

Invalid inner timefence :leadtime in Schedule Dtl :calendar_no orgn :orgn_code

Check that lead times follow constraints you have set up.

MR_SCHDDTL_BAD_INNER_TIMEFENCE

Invalid inner timefence :leadtime in Schedule Her Calendar :calendar_no

Check that lead times follow constraints you have set up.

MR_SCHDHDR_BAD_INNER_TIMEFENCE

Invalid inner timefence :leadtime in Whse rules :item_no1 whse :whse_code1

Check that inner timefence follows constraints you have set up.

MR_WHSEINV_BAD_INNER_TIMEFENCE

Invalid ITF :leadtime in Xfer rules :item_no1 whse :whse_code1 whse2 :whse_code2

Check that inner timefence follows constraints you have set up.

MR_WHSEREL_BAD_INNER_TIMEFENCE

Invalid MRP Horizon :leadtime in Schedule Hdr

Check that lead times follow constraints you have set up.

MR_SCHDHDR_BAD_MRP_HORIZON

Invalid OTF :leadtime in Xfer rules :item_no1 whse :whse_code1 whse2 :whse_code2

Check that outer timefence follows constraints you have set up.

MR_WHSEREL_BAD_OUTER_TIMEFENCE

Invalid outer timefence :leadtime in Prodn rules :item_no1 orgn :orgn_code

Check that lead times follow constraints you have set up.

MR_PLNTINV_BAD_OUTER_TIMEFENCE

Invalid outer timefence :leadtime in Schedule Dtl :calendar_no orgn :orgn_code

Check that the outer timefence follows constraints you have set up.

MR_SCHDDTL_BAD_OUTER_TIMEFENCE

Invalid outer timefence :leadtime in Schedule Hdr Calendar :calendar_no

Check that lead times follow constraints you have set up.

MR_SCHDHDR_BAD_OUTER_TIMEFENCE

Invalid outer timefence :leadtime in Whse rules :item_no1 whse :whse_code1

Check that outer timefence follows constraints you have set up.

MR_WHSEINV_BAD_OUTER_TIMEFENCE

Invalid Phantom Type ingredient :item_no1, formula :formula_no v :formula_vers

Check phantom type assigned in that formula.

MR_PHANTOMERR

Invalid Reschedule period :leadtime in Prodn rules :item_no1 orgn :orgn_code

Check that lead times follow constraints you have set up.

MR_PLNTINV_BAD_RESCHEDULE_PERIOD

Invalid Reschedule period :leadtime in Whse rules :item_no1 whse :whse_code1

Check that lead times follow constraints you have set up.

MR_WHSEINV_BAD_RESCHEDULE_PERIOD

Invalid Variable leadtime :leadtime in Prodn rules :item_no1 orgn :orgn_code

Check that lead times follow constraints you have set up.

MR_PLNTINV_BAD_VARIABLE_LEADTIME

Invalid Variable leadtime :leadtime in Whse rules :item_no1 whse :whse_code1

Check that variable lead times follow constraints you have set up.

MR_WHSEINV_BAD_VARIABLE_LEADTIME

Invalid VLT :leadtime in Xfer rules :item_no1 whse :whse_code1 whse2 :whse_code2

Check that variable lead times follow constraints you have set up.

MR_WHSEREL_BAD_VARIABLE_LEADTIME

Item :item_no1 is either deleted or inactive.

Check to see if item is inactive or deleted. Make the item active or remove item from formula.

MR_UOM_NOITEM

Item :item_no1 not found in Formula Effectivity

Check formula effectivity for item. Try rerunning MRP.

MR_NOITMFMEFF

Item :item_no1 Not Found in Production Rules

Check Production rules. Rerun MRP.

MR_NOITMPLNT

Item :item_no1 not found in Transfer Rules

Occurs if you set the Transfer indicator of an Item to '1' in the Warehouse Rules window and there is no Warehouse Transfer Rule setup for that Item and there is not enough onhand inventory available for that item.

MR_NOWHSEREL

Item :item_no1 not found in Warehouse Effectivity

Check to see if item is in your Plant-Warehouse rules. Rerun MRP.

MR_NOITMWHSEEFF

Item :item_no1 not found in Warehouse Rules

Check to see if there are Warehouse rules for this item. Try rerunning MRP.

MR_NOITMWHSEINV

Loading of Reorder rules failed

Occurs if you delete all the records from any of the Reorder Rules table.

MR_RULE_FAIL

Maximum qty. in the rule is 0. Hence No suggestion

Check your production rules and change the maximum quantity.

MR_ZEROMAXQTY

Missing ingr *item_id* :leadtime (:formula_no v :formula_vers) org :orgn_code

Check formula ingredients and rerun.

MR_NOINGRARR

Missing ingr qty :item_no1 (:formula_no v :formula_vers) org :orgn_code

Occurs if you make the Quantity of the Ingredient '0' in the Formula /Batch ingredient screen.

MR_NOINGRFORM

Negative scrap factor ingredient :item_no1, formula :formula_no v :formula_vers

Occurs, if you changed the scrap factor to a negative value in the database (FM_MATL_DTL and /or PM_MATL_DTL)

MR_NEGSCRAP

No Effective Warehouses Set Up

In the Plant-Warehouse window, if you set the consumption indicator to '0' for all Warehouse Items for Ingredients and replenishment indicator to '0' for all Warehouse Items of Products.

MR_NO_EFF_WHOUSES

No formula eff. for :orgn_code, :item_no1, req qty :required_qty, :start_date

Occurs if the Date range of the formula effectivity does not cover the suggested action date.

MR_FMEFFERR

No Material Detail item :item_no1 formula :formula_no orgn :orgn_code

If you delete the record from the tables FM_MATL_DTL or PM_MATL_DTL

MR_NOMATLDTL

No prod.batches for :item_no1 and whse :whse_code1 as rule_type = 0

Occurs if in the Warehouse Rule window, the rule type defined is '0'.

MR_PRODRULE

No Production rule for :item_no1 :orgn_code - using default item no. and plant

Occurs if you have defined a Production Rule having Global Organization for a particular Product. Change to specific organization.

MR_PLNTINVDEF2

No Production rule for :item_no1 :orgn_code - using default plant code

In the Production Rule window, if you have defined a Production Rule having Global Organization for a particular Product.

MR_PLNTINVDEF1

No Production rule for :item_no1 :orgn_code - using internal default

Occurs if the Production Rule defined has Rule Type '0' and min / max quantity of 0 (zero).

MR_PLNTINVDEF3

No production rule item :item_no1 whse :whse_code1 orgn :orgn_code

If there is a demand for the product and valid formula effectivity, but no Production Rule exists.

MR_NO_RESCHEDULE

No Rows in Forecast Detail

Occurs if you delete the detail records in the Forecast table.

MR_NOROWS_SCHDFOR

No rows in Formula Effectivity

Occurs if you deleted / marked for purge all the formula effectivity records in table FM_FORM_EFF.

MR_NOROWS_FMEFF

No rows in Item Master

Occurs if you deleted / marked for purge all the items in IC_ITEM_MST.

MR_NOROWS_ITEM

No Rows in Pending Transactions

Occurs if you purge all the records from IC_TRAN_PND table.

MR_NOROWS_TRANPND

No rows in Production Rules

Occurs if you delete / mark for purge all the records from Production Rules table.

MR_NOROWS_PLNTINV

No rows in Schedule Calendar Detail Table

If you delete all the records from PS_SCHD_DTL table.

MR_NOROWS_SHCLDTL

No rows in Schedule Details Table

Occurs if you deleted the detail records in the MPS Schedule window.

MR_NOROWS_CALEN

No rows in Schedule header (OR) Invalid header info.

Occurs if you delete all the records from PS_SCHD_HDR table.

MR_NOROWS_SCHDHDR

No rows in Shopday Detail

Occurs if you delete all the records from MR_SHDY_DTL table.

MR_NOROWS_SHDYDTL

No rows in Warehouse Effectivity

Occurs if you delete all the records from PS_WHSE_EFF table.

MR_NOROWS_WHSEEFF

No rows in Warehouse Rules table ic_whse_inv

Occurs if you delete all the records from IC_WHSE_INV table.

MR_NOROWS_WHSEINV

No rows in Warehouse Transfer Rules Table

Occurs if you delete all the records from IC_WHSE_REL table.

MR_NOROWS_WHSEREL

No schedule details for organization :orgn_code

Occurs if you delete all the records from Ps_Schd_Dtl table.

MR_NOSCHDDTL

No Warehouse Rules :item_no1, :whse_code1 -- using default

Occurs if there are no Warehouse Rules defined for a particular item Rerun MRP. If this occurs again, call Oracle OPM Level 1 Support.

MR_WHSEINVDEF

No warehouse rules :item_no1, warehouse :whse_code1

Check on Warehouse Rules for the item.

MR_WHSEINV

No warehouse rules for :item_no1, :whse_code1 -->using default whse_code

Occurs if there are no Warehouse Rules defined for a particular item Rerun MRP. If this occurs again, call Oracle OPM Level 1 Support.

MR_WHSEINVDEF1

No warehouse rules for item_no1, :whse_code1 -->using default whse & item

Occurs if there are no Warehouse Rules defined for a particular item Rerun MRP. If this occurs again, call Oracle OPM Level 1 Support.

MR_WHSEINVDEF2

No Whse Inv :item_no1, :whse_code1 -- using internal default

Occurs if there are no Warehouse Rules defined for a particular item Rerun MRP. If this occurs again, call Oracle OPM Level 1 Support.

MR_WHSEINVDEF3

Product :item_no1 is either deleted or inactive - UOM conversion failed.

Check to see if item is deleted or inactive. Check UOM conversions.

MR_NOT_PRODUCT

Product from effectivity not in formula :formula_no v :formula_vers

Occurs if you delete the main product of an formula and replace it with another product and don't change the effectivity accordingly.

MR_EFFMATLERR

Product qty. is zero item :item_no1 formula :formula_no

Occurs if there is a demand for a product and the formula quantity is zero for that product item. Fix formula quantity.

MR_ZEROPRODQTY

Shop Calendar Loading failed

Check to see if shop calendar details exist for the shop calendar used for MRP run.

MR_CAL_FAIL

This rule duplicates the forced transfer from :whse_code1 to :whse_code2

Occurs if more than one record exist in the Warehouse Transfer rules for the same item having same Source/Target Warehouse combination.

MR_DUP_FORCED_XFER

Transaction Loading/Update Fail

If there is no detail record in PS_SCHD_DTL table

MR_TRANS_FAIL

Transfer not completed because :item_no1 missing from target Whse :whse_code1

Occurs If you make the Item field 'NULL' in the Warehouse Transfer Rules table.

MR_NO_OTHER_WHSE

Transfer not completed because of inventory shortage :item_no1 and :whse_code1

Occurs if the transfer is Entire Quantity-Forced-Full Type in the Warehouse Transfer Rules window and the requirement is more than the on-hand inventory in the source warehouse

MR_NO_INVENTORY

Unable to determine Warehouse Effectivity for Ingredient.

Occurs if there is no Consumption Warehouse defined for the ingredient in the Plant-Warehouse rule table .

MR_NOWHSEFFERR

Whse item :item_no1 not found in Schedule Warehouse Effectivities

If the Warehouse item is not listed in the Plant/ Warehouse relationship for that Plant.

MR_NOITMWHSEITM

The following error message are usually NOT seen. However, if there is a corruption in the data they may display. If the system goes down, these codes indicate where the MRP engine stopped. Call Oracle Process Manufacturing Level 1 Support.

The message, reason / actions, and message code is provided

**NULL INPUT FIELD co_code item :item_no1 date :start_date trans_id
:leadtime**

Data corruption.

MR_BAD_CO_CODE

**NULL INPUT FIELD doc_type item :item_no1 date :start_date trans_id
:leadtime**

Data corruption.

MR_BAD_DOC_TYPE

**NULL INPUT FIELD orgn item :item_no1 date :start_date trans_id
:leadtime**

Data corruption.

MR_BAD_ORGN_CODE

**NULL INPUT FIELD trans_um item :item_no1 date :start_date trans_id
:leadtime**

Data corruption.

MR_BAD_TRANS_UM

**NULL INPUT FIELD whse_code item :item_no1 date :start_date trans_id
:leadtime**

Data corruption.

MR_BAD_WHSE_CODE

Error Messages and their Meanings - Additional Discussions

This topic further discusses some of the error messages listed in the matrix. The error messages can be classified as 'fatal' and informational. In the case of fatal errors, MRP would have abandoned the run process; after correcting the error, MRP must be initiated once again.

Fatal Error Messages

The following is the list of some of the common fatal errors.

Bill level generation failed

May be due to a circular reference existing in the product structure. In that case, MRP will produce the whole list of product and item structures in which this problem exists.

Deleted, Inactive or Non Inventory ingredient

In one of the active formulas there exists an item which is either deleted, inactive, or a non inventory item. The description will display the item number along with the message. Delete the item from the formula, if necessary. If the item is a product and the formula is no longer in use, then mark the formula for deletion.

No rows in Schedule details table

The Schedule detail portion has not been entered. Enter the organization and the calendar associated with it in the schedule window.

No rows in Formula effectivity for item

There are no rows in the formula effectivity table. There should be at least one formula effectivity defined.

No rows in Item Master

There is not a single item in the item master.

No rows in Production rules

There is not a single production rule in the database. Define one for an item which is produced in the relevant organization / plant

No rows in forecast detail

There is not even a single forecast record in the forecast detail table. If the Make to Stock indicator is turned on, then MRP will look for forecast records. If you do not want the same, then exclude make to stock.

No rows in Shop day detail

There is not even a single record in the shop days detail table. Define appropriate shop day detail against the relevant shop days.

No rows in Pending transactions

There are no rows in the pending transactions table (ic_tran_pnd)

No rows in Warehouse effectivity

There is not even a single record in the Plant_Warehouse table. Define at least one Plant_Warehouse record.

No rows in Warehouse Transfer (Xfer) rules table

Define at least one transfer rule in the appropriate table where the source/target warehouses and the item are covered in the schedule warehouse list.

Invalid fixed leadtime in Warehouse rules

The fixed leadtime for the item and warehouse displayed is > 9999. Correct to a value <= 9999. Likewise, you see the messages for variable leadtime, inner/outer timefence and reschedule period if the value is > 9999. Since the above fields are also available in the other reorder rule windows (production and transfer), it is likely that you may encounter some messages pertaining to those reorder rules.

Could not convert unit of measure for item

MRP could not perform the unit of measure conversion for the item because of the following reasons

- Item is marked for delete and is still appearing in one or more of the active and effective formulas
- UOM conversion does not exist for the item (in the event that the formula item uom is different from the primary uom) or the uom does exist and is marked for delete

Informational Error Messages

The following is the list of some of the common informational messages.

No planning for item

MRP has not considered the item for Planning.

Could not find formula eff. for orgn & item

While making a production batch suggestion, MRP tries to find a valid formula effectivity for a specific item and organization. If it cannot find one then this message is recorded.

It may also be possible that there exists a valid formula effectivity but the plan batch size is not within the min / max qty of the effectivity and / or the plan start date is not within the effectivity start / end dates.

No Production Rule for item/orgn - using default plant code

The production rule for the item and organization is not defined. But MRP will proceed ahead to make use of the default production rule for the item (that is., with organization or plant code as null or blank), if defined. This message denotes the same.

No Production Rule for item/orgn - using default item/plant

If MRP could not find a default production rule also, then it will make use of the global production rule (both item as well as the orgn code with blank / null), provided it is defined.

No Production Rule for item/orgn - using internal default

If MRP could not find global production rule, then it will make use of the hard coded one (that is., with min / max qty, rule type as zeros). In that case, the production batch suggestion will not take place.

Similarly, you may find error messages for warehouse & transfer rules also, if appropriate rules are not defined.

Maximum qty. in the rule is 0. Hence No suggestion

This may be due to the maximum qty for the item (either in production or purchase or transfer rule) being defined as 0. This message is recorded even when MRP is making use of the hard coded reorder rule.

Ordered date not scheduled because date prior to inner timefence for the item

This message is recorded when backward schedule failure occurs.

Could not reschedule for item and warehouse

MRP could not make reschedule recommendation.

MRP Bucketed Material Activity

OPM offers a dynamic Bucketed Material Activity inquiry, which indicates the effects of pending inventory transactions on stock balances for a specified period. Balances are shown as of the last day of each time period bucket (you define these buckets of time on the MPS Schedule Parameters window). This information can help you in managing your production schedule.

The following topics are discussed:

- MRP Bucketed Material Inquiry Introduction
- Viewing MRP Bucketed Activity
- Bucketed Material Activity - Additional Discussions

MRP Bucketed Material Activity Introduction

Material requirements and your onhand stock supplies can change quickly, sometimes due to situations beyond your control. These situations include new or unreliable vendors, unexpected customer orders, and your own production environment. Both the MPS and MRP applications provide planning tools that show the impact of these changes on finished goods items, as well as the ingredients and byproducts associated with them.

The Bucketed Material Activity inquiry available in the MRP application provides this pending transaction information also. However, it also indicates the effects of MRP suggestions (from the latest MRP run) on stock balances for the time period you specify. Where the data on the MPS version of the inquiry is dynamic, the data on the MRP version is fixed as of the last MRP run. Like the MPS version of the inquiry, individual transactions are not shown. Rather, the sum of transactions in various categories (such as sales orders and current batches) are listed for each time bucket.

The MRP Bucketed Material Activity inquiry enables you to limit your view of material supply and requirements to just those items that concern you at a specific time. By bucketing supply and demand inquiries to suit your planning needs, you may better respond to and plan for material requirements. If you flagged OPM to recognize scheduled deliveries from blanket purchase orders (BPOs) in MRP calculations, these deliveries will be included in the inquiry in the Scheduled Receipts classification. If you have flagged MRP to suggest changes in BPO deliveries (such as modified delivery quantities, or scheduled delivery dates), these will be reflected in the Planned Purchase classification of the inquiry. You flag MRP to consider BPOs on the Schedule Parameters window.

Viewing MRP Bucketed Material Activity

This inquiry enables you to view what impact pending inventory transactions will have on stock balances for a specified item / warehouse. The MRP version of the Bucketed Material Activity inquiry also lists the projected impact of MRP suggestions to produce, transfer, or purchase items. The view is limited to a specific item in one warehouse.

OPM lets you flag MRP to recognize scheduled receipts from blanket purchase orders (BPOs) during MRP runs (you set this flag on the Schedule Parameters window). If you have flagged MRP to recognize BPO scheduled receipts, these receipt quantities will be reflected in the material activity totals for each period; note the field descriptions for those quantities affected.

A printed listing of the Bucketed Material Activity report is also available.

Viewing MRP Bucketed Material Activity Procedure

1. Navigate to the **MRP Material Bucketed Activity**.
2. Complete the fields as described. You must specify the item and warehouse for which you are inquiring on material activity. When you complete all the fields, the Material Bucketed Activity data appears on the window.
3. When the data first appears, the Demand details display. To see the supply details, select **Supply details** from the region selection list. The supply details fields display.

Bucketed Material Activity Inquiry Field References

(Unlabeled)

The last MRP run date displays for your organization and schedule

Organization

This field displays the default organization assigned to the user (planner). If you have planning interests in more than one organization, you may override this default with another organization code (that is, one that has been linked to the Planner on the User Organization window, also in the System application).

Schedule

The default schedule parameters code assigned to the current user displays, along with the corresponding schedule parameters description. You may enter a different schedule parameters code, as necessary. The organization code and the schedule parameters code are both required to identify the schedule parameters that were used to generate the MRP run for which you are inquiring on material activity.

Note that if you specified an organization other than the default in the previous field, the default schedule parameters code in the Schedule field will be blanked out. You must then specify the valid code for the schedule against which the MRP run was generated.

For Organization

A schedule can have multiple organizations linked to it., enter the specific organization for which you want to see MRP Material Activity.

Item

Enter the item code of the item (product) for which you want to review material activity. Required.

Warehouse

Enter the warehouse in which the item on which you are inquiring is stocked. Note that the warehouse description displays,

Quantity On-hand

The on-hand quantity in the primary unit of measure on the starting date of the bucket displays when you enter the warehouse code.

Period Details

Period

The periods (time buckets) for which material activity is being reported displays. You define these buckets on the Schedule Parameters window

Date

This is the ending date for each of the time periods / buckets (beginning of the week, the month, the quarter, and so on).

Sales Orders

The total sales order demand for the item during this period displays.

Demand Details**Forecast**

The total demand from sales forecasts for the period displays.

Dependent Demand

The total dependent demand for the item from scheduled batches and firm-planned orders displays for the period.

Planned Demand

The sum of planned dependent demand from MRP-planned orders for the item during each time period displays.

Scheduled Receipts

The total of purchase order and purchase requisition receipts of the item during the period displays.

Note that if you flagged MRP to consider (during the MRP run) scheduled deliveries from blanket purchase orders, these BPO receipts also will be included in the total scheduled receipt quantity for the period. You set the flag for MRP to recognize blanket purchase order deliveries on the Schedule Parameters window.

Schedule Production

The total output from the batches during the period displays.

Supply Details

Planned Transfer

The total of MRP-suggested warehouse transfers of the item for the period displays.

Planned Production

The total of MRP-planned batches of the item for the period displays.

Planned Purchase

The total of MRP-planned purchases of the item during the period displays. MRP-planned purchases include approved requisitions, open purchase orders, and scheduled deliveries against blanket purchase orders.

Cumulative Details

Gross Demand

The total item demand for the period from all sources displays.

Gross Supply

The total item supply for the period from all sources displays.

Ending Balance

The onhand item quantity, after all demands and receipts have been applied to the starting onhand quantity, displays for each period.

Net Safety Stock

The net item requirement for the period (including safety stock) displays. This quantity should be equal to or greater than the safety stock quantity established for the item.

Bucketed Material Activity Inquiry - Actions Menu

Unbucketed

Produces the MRP Material Activity window. This query allows you to view the effects of pending inventory transactions and MRP suggestions on future stock balances in a chronological order. This differs from the bucketed format, which shows this information for pre-determined increments of time.

Approving the MRP Run

When you approve the MRP run, you confirm that you are satisfied with the action messages and error messages that have been generated. Only after you approve the run can you change action messages to batch tickets or firm-planned orders.

Approving the MRP Run

After you have reviewed the Error Message report and Action Message report for the last MRP run, and are satisfied with the results, you may approve the run. You must approve the run before you can convert the MRP action messages to firm-planned orders or batch tickets. Procedures for converting action messages to batch tickets and firm-planned orders are discussed later in this section.

Approving the MRP Run Procedure

To approve the MRP run:

1. Navigate to the **MRP Run** window.
2. Put the somewhere on the line of the run you want to approve (that is, the latest completed run).
3. Click **Approve Run** or select **Approve Run** from the **Actions** menu. Your user code displays in the **Approved by** field for the line you selected, indicating that the run has been approved by you.

Approving the MRP RUN - What to Do Next

Go the **Action Messages Inquiry**. On this window you may approve action messages and act on suggestions as applicable to your production schedule needs.

Action Messages

After you approve an MRP run, you then look at the action messages and decide which actions you want to take. Some action messages are suggestions. Other messages can be approved and converted from the Action Messages window.

The following topics are discussed:

- Approving MRP Action Messages
- Approving Batches / FPOs
- Approving Purchase Order Requisitions
- Rescheduling Production Batches
- Pegging Details
- MRP Action Messages - Additional Information
- Action Messages and their Meanings
- Running the MRP Action Messages Report

Approving MRP Action Messages

OPM enables you to convert the following types of MRP-generated action messages:

- Reschedule
- Move
- Resize
- Release a production batch

- Create a new batch (to FPOs or directly to production batch tickets).

To convert a planned production (PPRD) message to a firm-planned order or a batch ticket, you must approve the desired action message. Remember that you must first approve the MRP before you can approve individual message lines.

Approving MRP Action Messages Procedure

To approve a message for a FPO or batch, perform the following:

1. Select **Action Messages** from the MRP menu. **The MRP Action Messages Inquiry** displays.
2. Complete the fields as described.
3. Click any part of the line of the planned production action message that you want to convert. If the completed indicator has been selected, the message has already been approved for a FPO or a batch (you cannot select it for approval again).
4. Click **Approve** or select **Approve** from the **Actions** menu. The **Approve Action Messages** dialog box displays.

MRP Action Messages Inquiry Field References

Organization

This field displays the code of the organization (plant) for which you generated the last MRP run. This defaults from your default user organization or your session parameters. You may enter any organization to which the current user is associated. Users are associated to organizations on the User Organization window in OPM System Administration.

Schedule

This field displays the production schedule used for the MRP run. The default is the user's default schedule. You can enter any schedule tied to the organization code entered above. Default schedules are associated to users in the Oracle Applications System Administration application. You can change the schedule association in Session Parameters.

Item

Enter the item code for the product for which you want to generate the MRP run.

Warehouse

Enter the warehouse for which you want to generate an MRP run. If you leave this field blank it indicates you want to generate an MRP run for All the warehouses associated to the organization.

Last Run date

Displays the date of the last MRP run for the organization / schedule combination.

Phantom Batches

Select this box if you want to see messages for phantom batches.

Safety Stock

This field displays the safety stock quantity. This comes from the Warehouse Rules window.

Action Message**Start Date**

This field displays the date on which the suggested action (for example, production batch) should start.

Type

This field displays the document type (for example, PPRD or planned production order).

Action Qty

This field displays the quantify required by the action messages specified action.

Message Text

This field displays the text of the action message. For example, RELEASE PRODUCTION BATCH.

Completion Date

This field displays the expected completion date of the order.

Converted

This box is selected if a message has been converted.

Approving Batches/FPOs

The MRP Action Messages window enables you to approve individual firm-planned order or batch suggestions for scheduling.

Scheduling FPOs or Batches from Action Messages Procedure

1. Select **Batch** or **Firmed Planned Order** from the **Approve As** list and press **Tab**. OPM provides a list of possible FPO or production batch orders to be created.
2. In Document Details you can make adjustments to FPO / batch suggestions as described.
3. Click **Accept**. The **View Effectivities** window appears.
4. Select a production effectivity. The document specified in step 1 will display. Complete the window as described in the *Oracle® Process Manufacturing Production Management User's Guide*.

View Effectivities Window

Use this window to select a Production Effectivity.

View Effectivities Procedure

1. Scroll down the list of effectivities
2. Click the indicator box next to the effectivity you want to select. The **Approve Action Messages** window appears.

Approve Action Messages Field References

Schedule

This field displays the code for the production schedule used for the MRP run.

Last Run Date

This field displays the date of the last MRP run for the organization / schedule combination.

Item

This field displays the item code for the product for which you want to generate the MRP run.

Warehouse

This field displays the warehouse to which the order applies.

Completion Date

This field displays the date on which the order is to be completed.

Select

Select this box if you want to create an FPO or Batch Order from this line.

Line

Displays the detail line number.

Plant/Organization Code

The code of the plant for which the FPO or batch is planned.

Batch/Firmed Planned Order

When the Approve Action Messages window first displays, this field says NEW. If you have manual document numbering you can enter the number in this field. If you have automatic document numbering, OPM will assign the document number.

Quantity

This field displays the suggested quantity of the product which the batch will produce. You may modify this field.

UOM

The default unit of measure for the product being produced. You may modify this field if the product has dual uom enabled.

Start Date

The suggested start date of the order.

End Date

The suggested end date of the order.

Approving Purchase Order Requisitions

The MRP Action Message Inquiry gives you the ability to approve a recommendation to Release Purchase Order. If you approve this message, the Convert to Purchase Requisition window displays and shows all the related action messages for a given item / warehouse combination. The document type on this recommendation on the MRP Action Message Inquiry is PPUR. Once you approve the recommendation, a purchase requisition is created.

For information on Purchase Order requisitions, refer to *Oracle® Purchasing*.

Convert to Purchase Requisition Procedure

1. At the **MRP Action Message Inquiry**, position the cursor on a line with the message 'Release Purchase Order'.
2. Click **Approve**. This displays the **Convert to Purchase Requisition** window.
3. Select the lines you want to approve.
4. Edit the fields as described.
5. Click **OK**. This starts a process which imports the data into Oracle Purchasing as Requisition Lines.
6. When the concurrent request ID message displays, click **OK**.

Convert to Purchase Requisition Window Field References

Schedule

The ID code of the schedule used for the MRP run.

Last Run Date

The date of the last MRP run.

Item

Item ID code of the item for which the Action Message was generated.

Warehouse

Warehouse ID code of the replenishment warehouse.

Completion Date

This is the date by which the PO must be completed. This date comes from the completion date on the line that you approved.

Select

Click this box to select a line to convert the message to a PO requisition.

Line

The line number of the messages that you can convert to a PO requisition.

Quantity

Quantity of the item on the purchase requisition. You can edit this field.

UOM

Unit of measure in which the purchase requisition quantity is expressed.

Need By Date

Date by which the purchase needs to be completed. This date is the same as the Completion Date on the MRP Action Message Inquiry window. You can edit this field.

Buyer

Name of the buyer. You can edit this field.

Rescheduling Production Batches

In addition to using the Approve Action Messages window, the buyer / planner can alter a production schedule by changing the start and end dates of scheduled production batches. However, if you change the start date of the batch, you change the inventory ingredient commitments. If you change the end date of the batch, you change the availability of the finished goods.

See the discussion on the Production Schedule window in the *Oracle® Process Manufacturing Production Management User's Guide* for details on editing firm planned orders and changing batch dates.

Pegging Details

This window displays the pegging information of the active line on the MRP Action Messages window.

Pegging Details Procedure

To display this window, click **Pegging Information** or select **Pegging Information** from the **Actions** menu.

Pegging Details Window Field References

Type

This field displays the code of document type, for example, FCST for forecast) that generated the demand.

Organization

This field displays the plant organization from the Action Messages Inquiry.

Document Number

This field displays the document number. Document numbering is set up in the OPM System Administration application.

Transaction date

This field displays the transaction date of the document.

Quantity

This field displays the order quantity.

MRP Action Messages - Additional Information

This dialog box displays additional information about the selected Action Message.

Additional Information Procedure

To display this window, click **Additional Information** or select **Additional Information** from the **Actions** menu.

Additional Information Field References

Schedule

The schedule for which you are approving action messages.

Last Run Date

The date of the MRP run for which you are approving action messages.

Item

The code of the item (product) for which you are viewing and approving action messages.

Formula

The code of formula that creates the item and will be used for the production batch.

Version

The formula version number.

MRP Action Messages - Actions Menu

Additional Information

This field displays the Additional Information dialog box.

Pegging Information

This field displays the Pegging Information window.

Approve

Select to approve the selected MRP Action Message. You may also click Approve on the Action Messages window.

Action Messages and their Meanings

This is a list of the various messages that may be displayed / printed in the action message reports and their impact on MRP.

Cancel/Reject Requisitions

MRP has made a recommendation for canceling a purchase requisition for a particular ingredient of a product. This occurred because there was no requirement for that ingredient at the time of the last MRP run. The action quantity represents the quantity of the purchased item that will be canceled.

Cancel Production Batch

MRP has made a recommendation for cancellation for a batch or FPO because you had a pending production batch for a product but no demand. The action quantity represents the quantity (of the produced item) that will be canceled if you cancel the order.

Cancel Purchase Order

MRP has made a recommendation for canceling a PO for an open purchase order for a particular ingredient of a product. This occurred because there was no requirement for that ingredient at the time of the last MRP run. The action quantity represents the quantity of the purchased item that will be canceled.

Could Not Plan

Indicates that MRP could not make any suggestion for the item, perhaps due to various reasons explained in the earlier topics. Look for additional messages in the Error Messages for the specified item.

More than one Consumption Warehouse Exists

While making a production batch suggestion for a product, MRP has found more than one consumption warehouse for one of its ingredient(s). Check your Warehouse Rules and Warehouse Transfer rules windows for the item.

More than one Manufacturing Plant Exists

In the Plant-Warehouse window, there exists more than one Consumption / Replenishment warehouse for more than one plant and the plants are covered in the same schedule for which the MRP is run.

More than one supply warehouse exists

In the Plant-Warehouse window, there is more than one supply warehouses defined for a product.

No calendar available for Organization

The calendar span is insufficient to cover the starting and / or ending dates of a suggested order.

Phantom Production Batch

Indicates that the batch is a phantom production batch.

Phantom Shortage

The onhand balance of a phantom item / warehouse is less than the safety stock.

Release Production Batch

MRP is suggesting to release a batch against an inventory shortage. The action quantity here signifies the quantity for which the batch is to be created. The starting date represents the plan start date and the end date denotes the plan completion date.

Release Purchase Order

MRP is suggesting to release a purchase order for the specified quantity and the date on which the item is expected. Once this action message is approved, a purchase requisition is created.

Move/Resize Requisition By Action Quantity

MRP has made a recommendation for a purchase requisition reschedule for the specified quantity and/or dates.

Move/Resize Batch by Action qty

MRP has made a recommendation for a production reschedule for the specified quantity and dates. If you want to see the corresponding documents, choose Additional Information from the Actions menu.

Move/Resize PO by Action qty

MRP has made a recommendation for a purchase reschedule for the specified quantity and/or dates.

Inventory shortage

While doing the planning, MRP has encountered an inventory shortage on the specified date (start/end date). The projected balance quantity here represents the requirement quantity, less onhand quantity, and it does not include the safety stock. But at the time of making a suggestion, MRP will include the same.

Inventory shortage at start date

The onhand balance of an item / warehouse is less than the safety stock at the beginning of MRP run.

Initiate Warehouse Transfer

MRP is suggesting for warehouse transfer for the specified action quantity and dates. To view the source warehouse from where the transfer should take place, choose the Additional Information from the Actions menu.

Running the MRP Action Messages Report

The Action Messages report prints the messages that appear on the Action Messages Inquiry.

Running the MRP Action Messages Report Procedure

1. Navigate to the **Submit Request** window.
2. Enter MRP Action Messages Report in the **Request Name** field Complete the other fields on the window and click **Submit Request**. This displays the **Parameters** dialog box.
3. Complete the fields as described and click **OK**.
4. At the **Submit Requests** window, click **Submit Request**.

MRP Action Messages Report - Parameters

Orgn

This defaults from your default user organization or your session parameters. You may enter any organization to which the current user is associated. Users are associated to organizations on the User Organization window in OPM System Administration. Required.

Schedule

The default is the user's default schedule. You can enter any schedule tied to the organization code entered above. Default schedules are associated to users in the Oracle Applications System Administration application. You can change the schedule association in Session Parameters. Required.

MRP Run Date

Enter the last MRP run date. Required.

From Planning Class

Enter the first planning class you want to include in the report.

To Planning Class

Enter the last planning class you want to include in the report.

From Trans Date

Enter the first transaction date you want to include in the report.

To Trans Date

Enter the last transaction date you want to include in the report

Message Type

Enter the message type you want to include in the report as follows:

- 0 for Warnings
- 1 for Transfers
- 2 for Production
- 3 for Purchase

From Buyer/Plnr

Enter the ID code of first Buyer / Planner you want to include in the report.

To Buyer/Plnr

Enter the ID code of the last Buyer / Planner you want to include in the report.

Pegging Details

The default is Y (yes) to see pegging details. If you do not want to see pegging details, enter N in this field.

Phantom Batches

The default is no (N) to see data on phantom batches. Enter (N) in this field if you do not want to see phantom batch information.

MPS/MRP Online Inquiries

The MRP and MPS modules offer online query displays. These online reports help you to decide what products and ingredients you need, and when you will need them. Dialog boxes display for some of the online inquiry programs. These allow you to restrict queries based on the criteria that you enter.

The following topics are discussed:

- Viewing MPS Material Activity Information
- Viewing MPS Bucketed Material Information
- Viewing MRP Material Activity Information

Viewing MPS Material Activity Information

The MPS Material Activity Inquiry lists (in chronological order) pending inventory transaction activity for an item in a specific warehouse or all warehouse which you (as the planner) have authority. Pending inventory transactions include sales orders, purchase orders, firm-planned orders, or anything else that has an "anticipated" effect on stock balances (as opposed to an actual, "completed" stock transaction, such as a move of inventory between warehouses). By listing anticipated consumption against receipts (purchase receipts, planned order receipts), production and purchasing planners can view the effects of pending transactions on inventory balances.

A similar inquiry is available through in the MRP application. However, that one also includes the projected effects of MRP replenishment suggestions.

The MPS Bucketed Activity inquiry lists transaction activity (in a bucketed format) by category, rather than by individual transaction. The MPS Material Activity inquiry lists the details from the aggregate supply / demand information listed on the Bucketed Activity inquiry.

Viewing MPS Material Activity Online Procedure

1. Navigate to the **MPS Material Activity Inquiry**.
2. Complete the fields in the header panel as described. When you complete **Warehouse** field, the fields in the **Material Details** panel are populated with data.

MPS Material Activity Window Field References

Organization

This field displays the default organization assigned to the user. If the you have planning interests in more than one organization, you may override this default with another organization code (that is, one that has been linked to the planner on the User Organization window from the OPM System Administration application). Required.

Schedule

The default code for the schedule parameters assigned the current user displays along with the corresponding schedule parameters description. You may enter a different schedule parameters code, as necessary. Note that if you entered an

organization other than the default in the previous field, the default schedule parameters code in the this field will be blanked out. You must then enter the valid code for the schedule parameters. Required.

Item

Enter the item on which you are inquiring. Required.

Start Date

Enter the earliest date for which you want to see pending, sales forecast, or MRP-suggested transactions for the item. The default is the current date.

Warehouse

To run the inquiry for a pending transaction in a specific warehouse, enter the appropriate warehouse code. If you want to see item transactions for the item in all warehouses, leave this field blank

Quantity On-hand

This field displays the current on-hand quantity of the item you have entered. The unlabeled field is the unit of measure in which the quantity is expressed.

At this point, the bottom of the window displays pending transactions for the item. Refer to the Document Types window for definitions of the document that initiates the pending transactions.

Past Due

If this order is past due, this column is selected.

Past due forecast quantities are not displayed.

Date

This field displays the date of the order.

Document Type

This field displays the code for document types. For example, PPRD for planned production orders.

Organization

This field displays the code for the organization you entered in the header.

Document Number

If there is document number, the document number displays. Document numbering is set up in the OPM System Administration application.

Quantity

This field displays the quantity of the item requested on the order. Forecasts and sales orders display with a negative sign.

Balance

This field displays the balance in the warehouse after the order quantity is added or deleted. This field is a running balance as you proceed down the column.

Customer/Vendor

This field displays the code for the customer or vendor (depending on document type), if specified on the document.

Critical

If this box is checked, the item has fallen below the safety stock levels.

MPS Material Activity Inquiry - Actions Menu

Bucketed

Select this option to display the MPS Bucketed Material Inquiry.

Other UOM

Select this option to see the quantities expressed in another unit of measure if the item is dual UOM.

Viewing MPS Bucketed Material Information

Like the MPS Material Activity Inquiry, the MPS Bucketed Material Inquiry lists pending transaction information for a single item in one or more warehouses. However, the Material Activity Inquiry lists individual pending transactions for the item in chronological order.

The Bucketed Material inquiry shows aggregate supply and demand information for the item, grouped into categories (such as forecast and planned production data). The aggregate supply and demand for the item in each category is listed,

rather than the individual transactions. For example, if you plan for an item used in 50 formulas and in 30 batches per day, the Bucketed Material Inquiry can show you the total demand for the item by day, by week, and so forth.

Also, while the Material Activity Inquiry lists transactions in chronological order, the Bucketed Material Inquiry is generated on a time bucket-based format. OPM lists all pending supply and demand for an item, aggregated by day and week.

The time buckets are the ones you established for the schedule on the MPS Schedule window. In the time buckets you established, OPM compiles all sources of supply and demand.

Viewing MPS Bucketed Material Information Procedure

1. Navigate to the MPS module's **Bucketed Material Inquiry**.
2. Complete the fields in the header panel as described. When you complete or Tab through the **Warehouse** field, the fields in the lower half of the window are populated with data.

MPS Bucketed Material Inquiry Field References

Organization

This field displays the default organization assigned to the user. If the you have planning interests in more than one organization, you may override this default with another organization code (that is, one that has been linked to the planner on the User Organization window from the OPM System Administration application).

Schedule

The default code for the schedule parameters assigned the current user displays along with the corresponding schedule parameters description. You may enter a different schedule parameters code, as necessary. Note that if you entered an organization other than the default in the previous field, the default schedule parameters code in the this field will be blanked out. You must then enter the valid code for the schedule parameters. Required.

Item

Enter the item on which you are inquiring. Required.

Start Date

Enter the earliest date for which you want to see pending, sales forecast, or MRP-suggested transactions for the item. The default is the current date.

Warehouse

To run the inquiry for a pending transaction in a specific warehouse, enter the appropriate warehouse code. If you want to see item transactions for the item in all warehouses, leave this field blank

Quantity On-hand

This field displays the on-hand quantity in the primary unit of measure on the starting date of the bucket when you enter the warehouse code. The unlabeled field is the unit of measure in which the quantity is expressed.

Period Details

Period

This field displays the periods (time buckets) for which material activity is being reported. You define these buckets on the Schedule Parameters window

Date

This field displays the ending date for each of the time periods / buckets (day / week).

Demand Details Region

Sales Orders

This field displays the total sales order demand for the item during this period.

Forecast

This field displays the total demand from sales forecasts for the period.

Supply Details Region

PO Receipts

This field displays the total demand from PO receipts. PO receipts include approved purchase order requisitions, open purchase orders, and blanket purchase order scheduled deliveries.

Required Receipts

This field is reserved for future use.

Schedule Production

The total output from the batches during each time bucket.

Firm Production

The total output from FPOs for this period.

Cumulative Details Region

Total Demand

This field displays the total item demand for the period window all sources.

Total Supply

This field displays the total item supply for the period of all sources.

Ending Balance

This field displays the on-hand item quantity, after all demands and receipts have been applied to the starting on-hand quantity for each period.

Net Safety Stock

This field displays the net item requirement for the period (including safety stock).

MPS Bucketed Material Inquiry - Actions Menu

Unbucketed

Select this option to view the Material Activity Inquiry.

UOM

Select this option to view the item in the second unit of measure if the item is dual UOM.

Viewing MRP Material Activity Information

This inquiry works and looks similar to the MPS Material Activity Inquiry. However, the MPS version of the window includes only real pending and past-due activity.

The MRP version of the query differs in that it includes MRP-suggested transactions and sales forecast transactions. The resulting projected balances also reflect suggested transactions and sales forecast transactions. This window displays (in chronological order) transaction activity for a specific warehouse, or for all warehouses. It allows production and purchasing planners to organize and view the effects of pending and MRP-suggested transactions* on inventory balances. The inquiry is also available as a printed report

Note: If you have flagged MRP to consider blanket purchase orders (BPOs) and make suggestions for future BPO deliveries, the inquiry will reflect transactions for these anticipated blanket purchase order receipts.

Viewing MRP Material Activity Information Procedure

1. Navigate to the **MRP Material Activity Inquiry**.
2. Complete the fields on the MRP Material Activity Inquiry window as described. When you make the final entry in the **Warehouse** field, the inquiry displays the material activity for the item you specified.

MRP Material Activity Inquiry Field References

Organization

This field displays the default organization assigned to the user. If the user has planning interests in more than one organization, you may override this default with another organization code (that is, one that has been linked to the planner on the User Organization window, also from the System application).

Schedule

The default code for the schedule parameters assigned the current user displays along with the corresponding schedule parameters description. You may enter a different schedule parameters code, as necessary. Note that if you entered an organization other than the default in the previous field, the default schedule parameters code in the this field will be blanked out. You must then enter the valid code for the schedule parameters.

Item

Enter the item on which you are inquiring. Required.

Start Date

Enter the earliest date for which you want to see pending, sales forecast, or MRP-suggested transactions for the item. The default is the current date.

Warehouse

To run the inquiry for a pending transaction in a specific warehouse, enter the appropriate warehouse code. If you want to see item transactions for the item in all warehouses, leave this field blank

At this point the bottom of the screen displays pending transactions for the item. You can review each line to determine the projected impact of the transaction on your stock balance. Refer to the Document Types window for definitions of the document that initiates the pending transactions.

The document type PBPO (blanket purchase order scheduled delivery) appears only if you have flagged OPM to include blanket orders in MRP calculations.

Past Due

If this order is past due, this column is selected.

Date

The date of the order displays.

Document Type

The code for document type displays. For example, PPRD for planned production orders.

Organization

The code for the organization you entered in the header displays.

Document Number

If there is document number, the document number displays. Document numbering is set up in the OPM System Administration application.

Quantity

The quantity of the item requested on the order is displayed. Forecasts and sales orders display with a negative sign.

Balance

This field displays the balance in the warehouse after the order quantity is added or deleted. This field is a running balance as you proceed down the column.

Critical

Lists items that are critical. Items are defined as critical if:

- The pending transaction is dated prior to the start date you entered earlier
- The resulting item balance after the pending transaction still falls below the safety stock level (specified on the Warehouse Rules window)
- The resulting item balance after the pending transaction results in a negative quantity.

If multiple warehouses are selected it is the cumulative value.

Customer/Vendor

The code for the customer or vendor (depending on document type) displays, if specified on the document.

MRP Material Activity Inquiry - Actions Menu

Bucketed

Displays the MRP Bucketed Material Activity Inquiry.

MRP and MPS Reports

Each of the MRP and MPS online inquiries is also available as a printed report, already formatted and ready to run.

Each time you select a report, a dialog box displays. Here you may specify the parameters for producing the desired report information. These include fields that allow you to restrict the reported information based on the criteria you specify.

In this section you will find a description of each report available in the MRP and MPS applications. Explanations of the report data are provided.

The following topics are discussed:

- Running the Action Messages Report
- Running the MRP Bucketed Material Report
- Running the MRP Material Activity Report
- Running the MPS Material Activity Report
- Running the MPS Bucketed Material Report
- Running the Reorder Point Report

You must associate a Planning Class to your user and to each item you wish to have print on a report. If no associations are made, the reports will not print any data.

Running the MRP Bucketed Material Report

This report presents a view (within individual time increments that you define) of the effects of pending inventory transactions on stock quantities; in this manner the report is similar to the MPS version of the Bucketed Material Report. The MRP version of the report also shows the effects on inventory quantities of the suggested actions generated during the most recent MRP run.

You can restrict this report to bucketed material activity for items in one or more planning classes, or to activity in which one or more planner is concerned.

You must associate a Planning Class to your user and to each item you wish to have print on a report. If no associations are made the reports will not print any data.

Submitting the Report

1. Navigate to the **Print MRP Bucketed** window.
2. Complete the fields as described.
3. Submit the report.

The information entered here will also print on the cover page.

MRP Bucketed Material Report Parameters

This section describes the fields you need to complete in the Print MRP Bucketed Material Activity Report dialog box in order to print the report.

Organization

This field displays the default organization assigned to the user (planner). If you have planning interests in more than one organization, you may override this default with another organization code (that is, one that has been linked to the Planner on the User Organization window, also in the System application).

Schedule

The default schedule parameters code assigned to the current user displays, along with the corresponding schedule parameters description. You may enter a different schedule parameters code, as necessary. The organization code and the schedule parameters code are both required to identify the schedule parameters that were used to generate the MRP run for which you are inquiring on material activity.

Planning Class

To limit your items to print by a single planning class or a range of planning classes; in the From and To fields, enter a single code or a range of codes associated to the schedule for which you ran MRP.

Buyer/Planner

To limit your items to print by a single buyer / planer or range of buyers / planners; in the From and To fields, enter the codes associated with the buyers / planners associated to the schedule for which you ran MRP.

Item

To limit your items to print by a single or range of items; in the From and To fields, enter the item code (product) or a range of item codes for which you want to review material activity. Required.

For Organization

A schedule can have multiple organizations linked to it; in the From and To fields, enter the specific organization or a range or organizations for which you want to see MRP Material Activity.

Warehouse

To limit your items to print by a single or range of warehouses; in the From and To fields, enter the a single warehouse code or a range of warehouse codes in which the item or items which you are inquiring is stocked.

MRP Bucketed Material Report Output**Sales Orders**

The total sales order demand for the item for each time bucket.

Forecast

The total demand from sales forecasts for each time bucket.

Dependent Demand

The total dependent demand for the item from scheduled batches and firm-planned orders for each time bucket.

Planned Demand

The sum of planned dependent demand from MRP-planned orders for the item during each time bucket.

Total Demand

The total demand for the item during each time bucket.

PO Receipts

The total of purchase order receipts of the item during each time bucket. PO receipts include approved purchase order requisitions, open purchase orders, and blanket purchase order scheduled deliveries.

Schedule Production

The total output from the batches during each time bucket.

Planned Transfer

The total of MRP-suggested warehouse transfers of the item for each time bucket.

Planned Production

The total of MRP-planned batches of the item for each time bucket.

Ending Balance

The onhand item quantity, after all demands and receipts have been applied to the starting onhand quantity, for each time bucket.

Net SS Requirements

The net safety stock requirement for the time bucket. This quantity should be equal to or greater than the safety stock quantity established for the item.

Running the MRP Material Activity Report

This report lists actual real pending and past-due item transactions, and the resulting projected balances, for the date ranges that you specify. It also includes individual transactions suggested by MRP (during the last MRP run), and their projected effects on inventory balances.

You can restrict the report to pending transactions and MRP-suggested transactions for items in one or more planning classes, or items of concern to one or more planners.

You must associate a Planning Class to your user and to each item you wish to have print on a report. If no associations are made the reports will not print any data.

Submitting the Report

1. Navigate to the **Print MRP Activity** window.
2. Complete the fields as described.
3. Submit the report.

The information entered here will also print on the cover page.

MRP Material Activity Report Parameters

Organization

This field displays the default organization assigned to the user (planner). If you have planning interests in more than one organization, you may override this default with another organization code (that is, one that has been linked to the Planner on the User Organization window, also in the System application).

Schedule

The default schedule parameters code assigned to the current user displays, along with the corresponding schedule parameters description. You may enter a different schedule parameters code, as necessary. The organization code and the schedule parameters code are both required to identify the schedule parameters that were used to generate the MRP run for which you are inquiring on material activity.

Planning Class

Enter the code of the planning class associated to the schedule for which you ran MRP.

Schedule

The default schedule parameters code assigned to the current user displays, along with the corresponding schedule parameters description. You may enter a different schedule parameters code, as necessary. The organization code and the schedule parameters code are both required to identify the schedule parameters that were used to generate the MRP run for which you are inquiring on material activity.

Planning Class

To limit your items to print by a single planning class or a range of planning classes; in the From and To fields, enter a single code or a range of codes associated to the schedule for which you ran MRP.

Buyer/Planner

To limit your items to print by a single buyer / planer or range of buyers / planners; in the From and To fields, enter the codes associated with the buyers / planners associated to the schedule for which you ran MRP.

Item

To limit your items to print by a single or range of items; in the From and To fields, enter the item code (product) or a range of item codes for which you want to review material activity. Required.

For Organization

A schedule can have multiple organizations linked to it; in the From and To fields, enter the specific organization or a range or organizations for which you want to see MRP Material Activity.

Warehouse

To limit your items to print by a single or range of warehouses; in the From and To fields, enter the a single warehouse code or a range of warehouse codes in which the item or items which you are inquiring is stocked.

Critical Item

Select this box if you want to flag critical items.

MRP Material Activity Report Output

The report sorts the details of pending transactions for the item by date. Supply transactions (such as batch and purchase receipts) sort ahead of demand transactions (such as sales orders). Transaction lines will appear with an asterisk (*) if one or more of the following situations exist:

- The pending transaction is dated prior to the start date you specified earlier
- The resulting item balance after the pending transaction still falls below the safety stock level (specified on the Inventory Warehouse Rules window)
- The resulting item balance after the pending transaction results in a negative quantity

Organization

The organization code associated to the buyer/planner which you entered in the dialog box.

Schedule

The schedule associated to the MRP run which you entered in the dialog box.

Buyer/Planner

The code for the buyer or planner for whom you are listing item transactions and suggestions.

Planning Class

The planning class for which you are listing item transactions.

Item

The item code for which transactions are listed. The corresponding item description also appears.

Start Date

The start date for which the report was initiated.

MRP Last Run

The date of the most recent MRP run, upon which suggested MRP transactions have been based.

Warehouse

The warehouse in which the item transactions occur.

Qty On-hand

The total item quantity actually in the warehouse, with the unit of measure in which the quantity is expressed (as it is stocked). An Asterisk (*) indicates that this item is critical, that is, there are negative balances below safety stock requirements.

Date

The date the transaction occurred, or will occur. For MRP suggestions, this is the suggested date of the transaction.

Doc Type

The type of document that triggered the transaction (for example, PPUR for purchase order, FPO for firm-planned order). For suggestions, this is the type of transaction that MRP recommends you make.

Orgn code

The ID code for the organization for which the transaction occurred, or will occur.

Document No

The number of the document (sales order, purchase order, and so on) that triggered the transaction or suggestion for a transaction.

Trans Qty

The transaction quantity, or the transaction quantity suggested by MRP.

Balance

The total item balance for this item after the transaction occurs. For MRP-suggested transactions, this is the projected balance.

Customer/Vendor

For sales order transactions, the customer number from the sales order is printed. The vendor number appears from the purchase order if this is a real or suggested purchasing transaction.

Running the MPS Material Activity Report

This report lists (in chronological order) pending inventory transaction activity for an item in a specific warehouse, or all warehouses over which you (as the planner) have authority. Pending inventory transactions include sales orders, purchase orders, firm-planned orders, or anything else that has an "anticipated" effect on stock balances (as opposed to an actual, "completed" stock transaction, such as a move of inventory between warehouses). By listing anticipated consumption against receipts (purchase receipts, planned order receipts), production and purchasing planners can view the effects of pending transactions on inventory balances.

For buyer / planners, the report can help them decide which requisitions and MRP-suggested purchases should be approved. The report may also indicate situations where smaller purchases can be grouped into a single, large purchase, possibly allowing the buyer to receive a volume discount. The report may help production planners to decide when to convert firm-planned orders to batches. It may also indicate when batches should be rescheduled, resized, consolidated, or canceled.

You must associate a Planning Class to your user and to each item you wish to have print on a report. If no associations are made the reports will not print any data.

A similar report is available through in the MRP application. However, that one also includes the projected effects of MRP replenishment suggestions, and sales forecast transactions.

The MPS Bucketed Activity report lists transaction activity (in a bucketed format) by category, rather than by individual transaction. The MPS Material Activity report lists the details from the aggregate supply / demand information listed on the Bucketed Activity report.

Submitting the Selected Report

1. Navigate to the **Material Activity Report** dialog box.
2. Complete the fields as described.
3. Submit the report.

The information entered here will also print on the cover page.

Selected Report Parameters

Organization

This field displays the default organization assigned to the user (planner). If you have planning interests in more than one organization, you may override this default with another organization code (that is, one that has been linked to the Planner on the User Organization window, also in the System application).

Schedule

The default schedule parameters code assigned to the current user displays, along with the corresponding schedule parameters description. You may enter a different schedule parameters code, as necessary. The organization code and the schedule parameters code are both required to identify the schedule parameters that were used to generate the MRP run for which you are inquiring on material activity.

Planning Class

Enter the code of the planning class associated to the schedule for which you ran MRP.

Buyer/Planner

Enter the code of the buyer or planner associated to the schedule for which you ran MRP.

Item

Enter the item code of the item (product) for which you want to review material activity. Required.

For Organization

A schedule can have multiple organizations linked to it., enter the specific organization for which you want to see MPS Material Activity.

Warehouse

Enter the warehouse in which the item on which you are inquiring is stocked. Note that the warehouse description

Critical Item

Select this box if you want to flag critical items.

MPS Material Activity Report Output

The report sorts the details of pending transactions for the item by date. Supply transactions (such as batch and purchase receipts) sort ahead of demand transactions (such as sales orders). Transaction lines will appear with an asterisk (*) if one or more of the following situations exist:

- The pending transaction is dated prior to the start date you specified earlier
- The resulting item balance after the pending transaction still falls below the safety stock level (specified on the Inventory Warehouse Rules window)
- The resulting item balance after the pending transaction results in a negative quantity

The fields on this report are described below.

Buyer/Planner

The code for the buyer or planner for whom you are listing item transactions and suggestions.

Planning Class

The planning class for which you are listing item transactions.

Report Date

The date for which you are running the report.

Item

The item code for which transactions are listed. The corresponding item description also appears.

Warehouse

The warehouse in which the item transactions occur.

Start Date

The first date for which item transactions are listed.

Qty On-hand

The total item quantity onhand for the warehouse., with the unit of measure in which it is stocked.

Date

The date the transaction occurred, or will occur.

Document Type

The type of document that triggered the transaction (for example, PPUR for purchase order, FPO for firm-planned order). For suggestions, this is the type of transaction that MRP recommends you make.

Org

The organization for which the transaction occurred, or will occur.

Document No

The number of the document (sales order, purchase order, and so on) that triggered the transaction or suggestion for a transaction.

Qty

The transaction quantity, or the transaction quantity suggested by MRP.

Balance

The total item balance for this item after the transaction occurs. For MRP-suggested transactions, this is the projected balance.

Customer/Vendor

For sales order transactions, the customer number from the sales order appears. The vendor number appears from the purchase order if this is a real or suggested purchasing transaction.

Material Activity Report - Additional Discussions

This section discusses altering dates on FPOs and batches.

FPO and Batch Date Modifications

You, as the planner, after viewing the Material Activity report, may decide to alter scheduled dates of batches and firm-planned orders. This might be to accommodate changes in supply and demand. Supply changes may include a vendor who no longer stocks raw material that you need. A demand change may be a batch that must be postponed due to that lack of material from the usual vendor (the demand for the raw material for the batch alters the batch date).

These changes will be displayed immediately after saving upon refreshing the MPS inquiries and reports. You will need to run MRP again to see the effect of the changes on your MRP inquiries and reports.

Use the Schedule window in the OPM Production application to make schedule modifications. See the *Oracle® Process Manufacturing Production Management* for details on changing the production schedule.

Running the MPS Bucketed Material Report

Like the MPS Material Activity report, this report lists pending transaction information for a single item in one or more warehouses. However, the previous report listed individual pending transactions for the item in chronological order.

The MPS Bucketed Material report shows aggregate supply and demand information for the item, grouped into categories (such as purchase order receipts and planned production). The aggregate supply and demand for the item in each category is listed, rather than the individual transactions. For example, if you plan for an item used in 50 formulas and in 30 batches per day, the Bucketed Material Report can show you the total demand for the item by day, by week, and so forth.

Also, while the MPS Material Activity report lists transactions in chronological order, the MPS Bucketed Material report is generated on a time bucket-based format. OPM lists all pending supply and demand for an item, aggregated by day, week, or whatever buckets you defined on your schedule. OPM can thereby list net safety stock requirements for any point in time.

The time buckets are the ones you established for the schedule on the MPS Schedule window. In the time buckets you established, OPM compiles all sources of supply and demand.

You must associate a Planning Class to your user and to each item you wish to have print on a report. If no associations are made the reports will not print any data.

Printing the MPS Bucketed Material Activity Report Procedure

1. Navigate to the **Bucketed Material** window.
2. Complete the fields as described.
3. Submit the report.

The information entered here will also print on the cover page.

MPS Bucketed Material Activity Report Parameters

This section describes the fields in the print dialog box.

Organization

This field displays the default organization assigned to the user (planner). If you have planning interests in more than one organization, you may override this default with another organization code (that is, one that has been linked to the Planner on the User Organization window, also in the System application).

Schedule

The default schedule parameters code assigned to the current user displays, along with the corresponding schedule parameters description. You may enter a different schedule parameters code, as necessary. The organization code and the schedule parameters code are both required to identify the schedule parameters that were used to generate the MRP run for which you are inquiring on material activity.

Planning Class

Enter the code of the planning class associated to the schedule for which you ran MRP.

Buyer/Planner

Enter the code of the buyer or planner associated to the schedule.

Item

Enter the item code of the item (product) for which you want to review material activity. Required.

For Organization

A schedule can have multiple organizations linked to it., enter the specific organization for which you want to see MPS Bucketed Material Activity.

Warehouse

Enter the warehouse in which the item on which you are inquiring is stocked.

Critical Item

Select this box if you want to flag critical items.

Demand Components

Independent

Sales orders and sales forecasts (imported from systems outside of OPM) are the independent demand components.

Dependent

Scheduled ingredient (Sched Ingrid) demand comes from batch tickets, and firm ingredient (Firm Ingrid) demand comes from firm-planned orders.

Planned ingredient (Plnd Ingrid) demand comes from MRP-planned orders.

Total

This is the combination of all independent and dependent demand.

Supply Components

Open Purchase Orders

Purchase order receipt quantities (PO Receipts) are created by open purchase orders.

Req Receipts

For future use.

Firm Scheduled

This is the scheduled supply (Sched Firm) of the item from batch tickets.

Planned Production

This is the pending supply of the item from both firm-planned orders and MRP-planned orders (Plnd Prod).

MPS Bucketed Material Report - Balances and Safety Stock Requirements

At the end of each time bucket, OPM refers to the opening balance of the item, then uses the supply and demand information to produce an ending balance (Ending Bal) for the time bucket. OPM then compares the ending balance to the safety stock level for the item to determine the net safety stock requirements (Net SS Reqmt).

Running the Reorder Point Report

Use this report to see which items have reached the reorder point. You can also see how much onhand inventory there is and the item's EOQ (Economic Order Quantity). These parameters are set on the Warehouse Rules window. The report can be generated for all or a range of warehouses and items.

Submitting the Reorder Point Report Procedure

1. Navigate to the **Submit Request** window.
2. Enter the name of the report in the **Request Name** field.
3. Complete the other fields on the window and click **Submit Request**. This displays the **Parameters** dialog box.
4. Complete the fields as described and click **OK**.
5. At the **Submit Requests** window, click **Submit Request**.

Reorder Point Report Parameters

Schedule

Enter the ID code against which you want to run the report.

From Whse

Enter the ID code of the first warehouse that you want to include in the report.

To Whse

Enter the ID code of the last warehouse that you want to include in the report.

From Item

Enter the ID code of the first item that you want to include in the report.

To Item

Enter the ID code of the last item that you want to include in the report.

Reorder Point Report Output

This section describes the fields in the Reorder Point report.

Schedule

The schedule used to generate the report

Item

The item code range used to generate the report

Warehouse

The warehouse code range used to generate the report

Detail**Item**

The item code for the detail row.

Description

The description for the item.

Whse

The warehouse for the detail row.

Onhand

The inventory balance for the item in the warehouse.

Reorder Point

Displays the reorder point for the item which was defined in Inventory Warehouse Rules.

EOQ

Displays the Economic Order Quantity for the item which was defined in the Warehouse Rules window.

UOM

The item's primary uom for the row.

Oracle Process Manufacturing (OPM) Forecasting application gives you the option to allow Master Production Schedule (MPS) to include sales order forecast quantities as anticipated item demands.

The Forecasting application allows you to define sales forecasts, and enter appropriate forecast details (such as the item quantities and warehouses for which the forecasts are being defined). You may then link one or more sales forecasts to each schedule. This allows you to include numerous sales forecasts in each MRP run performed for a schedule.

The Forecasting application is not actually a forecasting tool, in that it does not assist you in making sales forecasts. It does, however, allow you to enter and view forecasts, and represent their demands in your production planning activities.

The following topics are covered:

- Understanding OPM Dynamic Forecasting 180
- Forecast Maintenance Window 180
- Associating a Forecast with a Schedule 182
- Setting Up MPS to Include Sales Forecasts 183

Understanding OPM Dynamic Forecasting

OPM provides dynamic forecasting periods so that you can manage the near-term window of scheduling in a more detail than the long-term. The date of the forecast demand will specify the beginning of the period.

The forecast demand represents all the goods you plan to ship until the next forecast date. OPM does not evenly distribute that demand over the period, as the period is dynamic and could be anywhere from a day to years. OPM responds to forecast demand by arranging the supply for the period to be available at the *beginning* of that period.

Forecasting supports planning. If the forecast period is longer than the planning period, the planner must make a decision and manage the forecast data accordingly.

Carrying the Forecast Forward

When approaching the beginning of a forecast period, a planner must evaluate the supply and demand situation. If the sales order demand seems light, the planner may choose not to schedule production for the entire forecast demand. In this case, the planner must decide whether or not to carry-forward the remaining forecast demand. By simply adding a row to the forecast, the planner can choose to carry it forward, (basically deferring it to later in that period).

Since forecasts in OPM are dynamic, the planner can manage the near-term window in weeks or days while the long term window is managed in months or years.

For example: Your forecast for July 1 is 4000 pounds for the month. Sometime in June, you decide you do not need all 4000 pounds on July 1, so you look at the Sales Order demand and decide to make 2000 pounds for July 1 and 2000 more by July 15. You edit the forecast data accordingly and let MRP schedule production carry-forward functionality.

Forecast Maintenance Window

Use this window to enter those items that you want to be associated with the schedule named in the MPS setup.

Forecast Maintenance Window - Procedure

To use the Forecast Maintenance window:

6. Navigate to the **Forecast Maintenance** window.
7. Complete fields as described.
8. Save the window.

You can use Attachments and Folders with this window. See *Oracle Applications* for detailed information on attachments and folders.

Forecast Maintenance Window Field References

Forecast

Enter the name of the forecast name. Required.

Description

Enter the description of the forecast.

Item

Specify the item for which you are entering forecasts.

Org

Specify the code for the organization from which the forecast originates. The default is the organization code linked to the user.

Whse

Specify the warehouse for which you are entering forecasts. This warehouse code becomes a default for the detail fields on the bottom of the window.

Date

Enter the forecast date for the line item displayed.

Quantity

Enter the forecasted quantity.

UOM

The default unit of measure for the Item is displayed in this field.

Descriptions**Item**

This field displays the description of the item selected.

Organization

This field displays the organization description for the current record.

Warehouse

This field displays the warehouse for the current record.

Associating a Forecast with a Schedule

Use the Forecast Association window to associate or link one or more forecasts to a schedule. This procedure determines which forecasts will be visible to that schedule and allows you to include numerous sales forecasts in each MRP run performed for a schedule.

Forecast Schedule Association - Procedure

To associate a forecast with a schedule:

1. Navigate to the **Forecast Schedule Association** window.
2. Complete the fields as described.
3. Save the window.

Forecast Schedule Association Field References

Schedule

(first field)

Enter the code for the organization that owns the schedule. Required.

Schedule

(second field)

Enter the schedule to which you are associating forecasts. Required.

Description

This field describes the schedule entered, and displays automatically. You cannot edit this field.

Forecast

Specify the forecast you are associating with this schedule. Required.

Description

This field describes the forecast to be associated with the named schedule. You cannot edit this field.

Forecast Schedule Association - What to do Next

Run MRP and query the MRP or MPS material activity or bucketed material activity. The forecasted requirements will appear in the Bucket Material Inquiry and Material Activity Inquiry windows. Refer to the *OPM MRP/MPS* user's guide for additional information.

Setting Up MPS to Include Sales Forecasts

Once you have completed Forecast Maintenance and associated the forecast with one or more schedules, you need to set up MPS so that the sales forecast quantities will appear as demand on the Material Activity and Bucketed Material Activity reports.

To set up MPS:

1. Navigate to the **MPS Schedule Parameters** window.
2. Use the Query Find option or other query feature to get your forecast schedule displayed in the **Schedule** window field.
3. Select **Include Sales Forecasts** in the **Indicators Make to Stock** field.
4. Save the window.

The sales forecast quantities will appear as demand on the Material Activity and Bucketed Material Activity reports. The forecast quantities also appear as demand on inquiries in the MPS and MRP applications.

In all cases, the forecast demand is identified by the document type FCST.

A

Appendix

The following topics are discussed:

- MPS Navigator Paths
- MRP Navigator Paths
- Forecasting Navigator Paths
- MRP Troubleshooting Checklist

MPS Navigator Paths

Although your system administrator may have customized your navigator, typical navigation paths are described in the following tables. In some cases, there may be more than one way to navigat to a a form. These tables provide the most typical path.

Window	Path
Bucketed Material Inquiry	OPM Process Planning:MPS:Inquiries:Bucketed Material
Bucketed Material Report	OPM Process Planning:MPS:Reports:Print Bucketed Material
Material Activity Inquiry	OPM Process Planning:MPR:Imquiries:Material Activity
MPS Activity Report	OPM Process Planning:MPS:Reports:Schedule
MPS Schedule Parameters	OPM Process Planning:MPS:Setup:Schedule
Plant Warehouses	OPM Process Planning:MPS:Setup:Plant-Warehouse

MRP Navigator Paths

Although your system administrator may have customized your navigator, typical navigator, typical navigation paths are described in the following table. In some cases there is more than one way to navigate to a window. This table provides the most typical default path.

Window	Path
Error Messages	OPM Process Planning:Inquiries>Error Messages
MRP Action Message Inquiry	OPM Process Planning:MRP:Inquiries>Action Messages
MRP Bucketed Material Activity	OPM Process Planning:MRP:Inquiries:MRP Bucketed
MRP Material Activity Inquiry	OPM Process Planning:MRP:INquiries:MRP Material
MRP Run	OPM Process Planning:MRP:MRP Run
Print MRP Bucketed Report	OPM Process Planning:MRP:Reports:Print MRP Bucketed
Print MRP Material Activity Report	OPM Process Planning:MRP:Reports:Print MRP Activity
Shop Calendar	OPM Process Planning:MRP:Setup:Shop Calendar
Shop Days	OPM Process Planning:MRP:Setup:Shop Days
User Planning Classes	OPM Process Planning:MRP:Setup>User Planning Classes

Forecasting Navigator Paths

Although your System Administrator may have customized your Navigator, typical navigation paths are described in the following table. In some cases, there is more than one way to navigate to a window. This table provides the most typical default path.

Window	Path
Forecast Maintenance	OPM Process Planning:Forecasting:Forecast
Forecast Schedule Association	OPM Process Planning:Forecasting:Schedule Association
MPS Schedule Parameters	OPM Process Planning:MPS:Setup:Schedule

MRP Troubleshooting Checklist

The Troubleshooter Checklist lists ways of finding errors in the setup data that could cause MRP to make no suggestions, or incorrect suggestions. In the event of wrong data entry / setup, it also explains the correct setups. The list is divided as follows:

- Why is Suggestion Not taking Place
- "What if" conditions or situations
- Messages and their meanings

Why is Suggestion Not Taking Place

This section lists the various reasons why MRP will not make a relevant suggestions or recommendation. At the end of each subtopic, you will find examples which should clarify the discussion.

Suggestion for Production Batch

1. If MRP is not making a production batch suggestion for an item, check the following setups in the specified order.
2. Check whether the demand warehouse (that is, the warehouse where the sales order or forecast is placed) is covered under the Schedule Warehouse list.
3. Check whether a specific warehouse rule exists (that is, the warehouse rule for the given item and requirement warehouse). Please refer to the note under this topic for the reorder rule selection. Check the setting of the production indicator.
4. Check whether a production rule exists for the item and organization. The organization here signifies the plant where the item is manufactured and for which the Plant Warehouses association is set up.
 1. Check that the rule type is lot for lot or EOQ.
 2. Check for the batch size according to rule type.
 3. Check whether the plotting points by calendar could be retrofitted within the time fences. That is, the plan start and completion dates for the batch (calculated using the leadtime) would fall within the inner time fence and outer time fence dates for the item.

4. Check that backward scheduling is possible for the batch is possible. That is, subtract the total leadtime for the batch from the requirement date to arrive at the plan start date. For the purpose of calculation, exclude the intervening holidays defined in the shop calendar for the organization. If the date arrived at is before the inner timefence date, then the backward schedule will fail.

If backward scheduling has failed, check for the forward shcedule. That is, set the plan start date as the inner timefence date, and add the total leadtime to arrive at the plan completion date. If the plan completion date is beyond the outer timefence, then the forward schedule will also fail.

5. Check if a formula effectivity exists for the item and organization where batch size => the minimum quantity of formula effectivity, and the batch start date <= the end date.

In MRP processing, the planning usage formula effectivity records are considered first, followed by the production usage effectivity records. In the planning usage records, the specific ones (the item number and organization code specified) are given the first preference over the global ones (organization code is blank/null).

6. Check that the formul corresponding to the formula effectivity is not marked for purge.
7. Check whether Plant Warehouse effectivity records exist for the items defined in the respective formula.
 1. For Ingredients - check whether a record exists for the item and plant in any of the warehouses with the replenishment indicator.
 2. For Byproducts/Coproducts - check whether a record exists for the item and plant in any of the warehouses with replenishment ind = 1

Examples - Product Batch Suggestions

Example A

Assume a manufactured / production item (Prod-1) has a requirement of 100 on a particular date (say 20 days from the MRP run date) against a warehouse (W1).

The first check should be to verify whether the warehouse in questions is covered

Assume a manufactured / production item (PROD-1) has a requirement of 1000 on a particular date (say, 20 days from the MRP run date) against a warehouse (W1).

The first check should be to verify whether the warehouse in question is covered under the Schedule Warehouse list.

The Schedule Warehouse List is the list of unique warehouses that appear in the Plant_Warehouse table for all the organizations defined in the schedule

Assume that plants 'PL1' & 'PL2' are defined in the schedule 'MRP-SCHEDULE' for which the planning is done. The following is the list of Plant_Warehouse records defined for both plants.

Plant PL1

Whse	Consumption	Replenishment	Whse Item ID
W1	0	1	PROD-1 Product
W2	1	0	ING-1
W3	1	1	ING-2 Ingredients
W3	1	0	ING-3
W4	0	1	BYP-1 By-product

Plant PL2

Whse	Consumption	Replenishment	Whse Item ID
W5	0	1	PROD-2 Product
W2	1	0	ING-1
W6	1	1	ING-4 Ingredients
W6	1	0	ING-4
W7	0	1	BYP2 By-product

Using the above data for processing, MRP would form the following list (that is, Schedule Warehouse list)

Warehouse Codes

W1, W2, W3, W4, W5, W6, W7

b. The next check should be to verify whether there exists a specific warehouse rule for the item. If not, check for the default or global warehouse rule existence. Please refer to the notes for setting up a default or global reorder rule. If none of the warehouse rules are defined, then set up one. While setting up the warehouse rule, make sure to set the Production Ind to '1'.

c. Assume the item PROD-1 is manufactured in Plant 'PL1'. Check whether a record exists in the Plant_Warehouse table with the following details:

Plant PL1

WhseConsumptionReplenishmentWhse Item ID

W101PROD-1 or Null

(OR)

W111PROD-1 or Null

d. Check whether a production rule exists for item 'PROD-1' and Plant 'PL1'. If not, check for default or global production rule existence. If none of them exist, then define one with rule type other than manual schedule ("0").

e. How to check for Plotting Points

Case I. Both requirement & start dates are within timefences

Let us assume the following data set up for item 'PROD-1' and Plant 'PL1' on the Production Rules form

Min qty 200

Max qty 2000

Std qty 1000

Inner timefence 5

Outer timefence 60

Fixed Leadtime 24

Variable leadtime 12

Rule type 1

Assume that the MRP run is taking place on 01/01/1993 00:00:00. The inner timefence date will be taken as 01/06/1993 00:00:00. The outer timefence date will be calculated as 03/02/1993 00:00:00

Calculate Leadtime :

Total leadtime = Fixed leadtime + (Batch size / Std qty * Variable leadtime)

Fixed leadtime will be added only for the first batch and not for the subsequent batches

In the above case,

Total leadtime => $24 + (1000 / 1000 * 12) => 36$ hrs

If the requirement date is 01/21/1993 00:00:00, then the plan start date is calculated as follows per backward scheduling:

Plan start date = Req. date - total leadtime

Plan start date => 01/21/93 00:00 - 36 HRS

=> 01/19/93 12:00

Case II. Plan start date falls before the inner timefence date (that is, backward schedule fail)

Assume in the above example that the std qty entered is 10 instead of 1000.

Total leadtime => $24 + (1000/10 * 12) = 1224$ hours

Plan start date => 01/21/1993 - 1224 hours

= >12/01/1992

The above date is arrived at under the assumption that the shop calendar is defined for 24 hours a day, and all the 365 days are working days. In this case the start date (12/31/1992) falls before the inner timefence date (01/06/1993), and the backward schedule will fail.

Case III Plan completion date falls after the outer timefence date
(that is, forward schedule fail)

Taking Case II as a basis, MRP will set the start date as the inner timefence date (01/06/1993) and calculate the plan completion date.

Plan completion date => inner timefence date + total leadtime

= > 01/06/1993 00:00:00 + 1224

=> 02/26/1993 00:00:00

The above condition is valid because the plan completion date (02/26/1993) is less than (<) than the outer timefence date (03/02/1993).

Let us assume that the outer timefence is set as 50 days in the above example. Then the outer timefence date would be 02/25/1993 00:00:00. Since the plan completion date (02/26/1993) is greater than (>) the outer timefence date, MRP will not make a suggestion.

f. Check for Plant_Warehouse association (or Warehouse Effectivities):

Assume that the product 'PROD-1' consumes three ingredients and produces one byproduct during process. The following is a list of ingredients and byproducts.

Ingredients	Byproducts
ING1	BY-PROD1
ING2	
ING3	

Check the Plant_Warehouse form to verify if there exists valid effectivity records for the above items. The following table gives an example.

Plant	PL1
WhseConsumptionReplenishmentWhse Item ID	
W210	ING-1
W311	ING-2 Ingredients
W310	ING-3
W401	BY-PROD1 By-product

Note that the Plant_Warehouse records are set up for the ingredients & byproducts in the plant where the main product is replenished.

Note:

1. If you notice that the dependent demands are not written for the ingredients, it may be because of the Plant_Warehouse effectivities have not been defined for all the items in the formula
2. a. In the absence of a specific warehouse rule, the MRP engine will look for a default warehouse rule for the item (the rule for the given item with the warehouse code as null/blank)
- 2.b. In the absence of a default warehouse rule, the engine will look for a global warehouse rule (item number as well as warehouse code as null/blank)
3. a. In the absence of a specific production rule, the engine will look for a default production rule for the item (the rule for the given item with the organization code as null/blank)
- 3.b. In the absence of a default production rule, the MRP engine will look for a global production rule (item number as well as organization code as null/blank)

Suggestion for Purchase

If MRP is not making a purchase order suggestion for an item, check for the following in the order specified:

1. Check if the demand warehouse (the warehouse where the sales order or forecast is placed) is covered under the schedule warehouse list
2. Check if a specific warehouse rule exists (warehouse rule for the given item and requirement warehouse)
 - Check whether Purchase Ind. = 1
 - Check that the rule type is either lot-for-lot (1) or EOQ (2)
 - Check for the batch size
 - Check if the plotting points by date could be retrofitted within the timefences
 - Check if backward scheduling is possible for the batch. That is, subtract the total leadtime for the batch from the requirement date to arrive at the Plan Start date. If the date arrived at is prior to the inner timefence date, the backward schedule will fail
 - If backward schedule has failed, check for the forward schedule. That is, set the plan start date as the inner timefence date, and add the total leadtime to arrive at the plan completion date. If the plan completion date is beyond the outer timefence, the forward schedule will also fail.

Note:

1. a. In the absence of a specific warehouse rule, the MRP engine will look for a default warehouse rule for the item (the rule for the given item with the warehouse code as null / blank)
- 1.b. In the absence of a default warehouse rule, the engine will look for a global warehouse rule (item number as well as warehouse code as null / blank)
- 1.c. Once a warehouse rule is identified, verify for the remaining things shown in article 2, above.
2. For leadtime and plotting points by date calculation, please refer to the examples shown under "Suggestion" for production. The following are the main differences between purchase and production:
 - a. Leadtime:

In the case of production, the leadtimes are defined in terms of hours. In the case of purchase, leadtime is defined as days.
 - b. Plotting points:

In the case of production, the plotting points are calculated as per the shop calendar. In purchase it is calculated by normal date arithmetic.

Suggestion for Warehouse Transfer

If MRP is not making a warehouse transfer suggestion for an item in question, check the following in the order specified.

1. Check if the demand warehouse (the warehouse where the sales order or forecast is placed), as well as the supply warehouse is covered under the schedule warehouse list

2. Check if a specific warehouse rule exists (warehouse rule for the given item & requirement warehouse)

- Check if Transfer Ind. = 1

3. Check if there exists any warehouse transfer (Xfer) rule for the item with the target warehouse as the requirement warehouse.

- Check if warehouse rule exists for the item and source warehouse

- Check for the following based on the warehouse transfer rule selected:

- Check if rule type is lot-for-lot (1) or (2) EOQ

- Check batch size

- Check whether the projected balance qty on the requirement date is greater than (>) safety stock for the source warehouse

- Check if the plotting points by date could be retrofitted within the timefences

- Check if backward scheduling is possible for the batch. That is, subtract the total leadtime for the batch from the requirement date to arrive at the plan start date. If the date arrived at is before the inner timefence date, then the backward schedule will fail.

- If backward schedule has failed, check for the forward schedule. That is, set the plan start date as the inner timefence date and add the total leadtime to arrive at the plan completion date. If the plan completion date is beyond the outer timefence, then the forward schedule will also fail.

- If either backward or forward scheduling is successful, check to see that the plan start date till the requirement date (the projected balance qty - safety stock) of the source warehouse is >= batch requirement qty.

4. Examples:

Assume that there exists a demand of 500 for an item 'ING-1' in warehouse 'W1' on 01/25/1993. Assume that the warehouse rule is defined for the item with transfer ind = '1'.

If transfer is possible for that item from warehouse 'W2', check to see if a transfer rule is defined with the source warehouse as 'W2' and target warehouse as 'W1'. Please refer to the note under this topic for warehouse transfer rule selection criteria.

Assume that the following parameters are defined in the warehouse transfer rule.

Min qty 100

Max qty 1000

Std qty 100

Inner timefence 3

Outer timefence 60

Fixed Leadtime 2

Variable leadtime 3

Rule type 1

Case I. No transactions in source warehouse, but onhand balance > 0

Assume that the safety stock of the source warehouse is 50 and the onhand balance is 500. The net available quantity is 450 (onhand qty - safety stock). Since the requirement qty (500) is greater than (>) the net available qty (450), MRP will not suggest for transfer

If the onhand qty is at least 550, then MRP would have suggested for transfer.

Case II. Transactions for source warehouse and net available quantity greater than required quantity

Assume that the safety stock of the source warehouse 'W2' as 50, and the onhand quantity as 1000. The following are the transactions that exist for the item 'ING-1' and warehouse 'W2'

DateDocTrans.qtyProj.balNet avail.qty

01/14/93PROD400600550

01/17/93PPRD200400350

01/20/93PORD500900850

Since the net available qty (projected bal qty - safety stock, that is, 950) on the requirement date 01/25/93 is greater than the net required qty (500), MRP will consider this warehouse for transfer. But, let us see whether the requirement is met

by the source warehouse for the period from the transfer start date till transfer end date, taking the transfer leadtime into consideration.

How to calculate the transfer leadtime

Transfer leadtime = Fixed leadtime + (Net requirement qty / Std qty * Variable leadtime) => 2 + (500/100 * 3)

=> 17

How to calculate the transfer start/end dates

Transfer start date = requirement date - transfer leadtime

=> 01/25/93 - 17

=> 01/08/93

Now MRP will verify the net available qty of all the transactions, starting from 01/08/93 to 01/25/93, to be greater than the requirement qty (500). Since the net available quantity on 01/17/93 is less than 500, MRP will not suggest for transfer, even though the net available quantity on 01/14, as well as 01/20 and 25th, is greater than the requirement quantity.

If the transaction on date 01/17/93 had not existed, then MRP would have suggested for transfer.

Note:

In the absence of a specific warehouse transfer rule, the engine will look for transfer rules in the following order:

- For the given item and the source warehouse as the requirement warehouse
- For item '0' and the target warehouse as the requirement warehouse
- For item '0' and the source warehouse as the requirement warehouse
- For item '0' and both source and target warehouses as blank / null

Recommendation for Rescheduling

Recommendation for rescheduling can be separated as production and purchase rescheduling. If MRP is not making a recommendation for reschedule, then refer to the appropriate subtopic that follows.

Production Reschedule:

For the purpose of production reschedule, only the following documents should be considered. The transaction under consideration should be a replenishment transaction (trans.qty > 0)

DocumentDescription

PRODProduction batch

FPOFirm Planned Orders

If MRP is not making a recommendation for reschedule, check the following points:

1. Check if the demand warehouse (the warehouse where the sales order or forecast is placed) is covered under the Schedule Warehouse list.
2. Check if a specific warehouse rule exists (warehouse rule for the given item & requirement warehouse)

Check whether Production Ind. = 1

3. Check if the Plant_Warehouse record exists for the item and warehouse with replenishment indicator = 1.
4. Check if a production rule exists for the item and plant. The 'plant' here signifies the plant where the item is manufactured and for which the Plant_Warehouse association is set up.

Check that the production reorder rule type is either lot-for-lot (1) or EOQ (2)

5. Check if there exists any replenishment/supply transactions for the item / warehouse with the above document types. If so, check for the following
 - Check if the supply transaction is prior to the requirement date or later than the requirement date.

If the supply transaction date is earlier than the requirement date, and reschedule is still not recommended, then it may be due to one of the following reasons:

- net requirement (projected bal.qty - safety stock) on the date of the requirement is ≥ 0 .
- check if the plan start date of the batch or FPO falls before the MRP run date (after subtracting the production leadtime for the batch from the requirement date)
- the supply transaction is already considered for planning, because of N-days supply, or the transaction is already suggested for reschedule for an earlier demand.

If the supply transaction date is later than the requirement, check for the following:

- Check if the reschedule period in the production rule, for the item / plant, is 0.
- Check if the plan start date of the batch or FPO falls before the MRP run date (after subtracting the production leadtime for the batch from the requirement date)

· If reschedule period is >0, and even then it is not recommending, it may be because the supply transaction is later than the reschedule cut off date.

6. Examples:

Case I - Supply Transactions Before the Requirement Date:

Assume that there exists a demand for an item 'PROD1' in Warehouse 'W1' for qty 1000 on 01/20/93. Assume also the item is manufactured in plant 'PL1', and Plant_ Warehouse, as well as the production rules, are set up. The following is the list of transactions that exist for the item and warehouse:

DateDocTrans.qtyProj.balNet avail.qty

01/10/93FPO100010001000

01/15/93OPSO100000

In the above case reschedule recommendation will not take place because the Net avail.qty is not greater than 0, assuming the leadtime for production is 10 days and the MRP run date is 01/01/93.

Now look at a slightly different case, the difference being that the demand transaction qty is 1100 instead of 1000.

DateDocTrans.qtyProj.balNet avail.qty

01/10/93FPO100010001000

01/15/93OPSO1000-100-100

In the above case, the reschedule recommendation will take place for an addition of 100 units on 01/10/93.

Case II - Supply Transactions After the Requirement Date:

Assume that there is a demand for an item 'PROD-1' in Warehouse 'W1' for qty 1000 on 01/20/93. Assume the item is manufactured in plant 'PL1', and the Plant_ Warehouse association, as well as the production rules, are set up. The following is the list of transactions that exist for the item and warehouse

DateDocTrans.qtyProj.balNet avail.qty

01/15/93OPSO1000-1000-1000

01/20/93FPO100000

In the above case reschedule recommendation will not take place, unless the reschedule period value is =>5 in the production rule. The reschedule period is

used to find out the cut off date up until which all the supply transactions will be considered.

Assume in the above case the reschedule period is set as 10, and the total production leadtime for the FPO in consideration is 17 days. In this case the reschedule also will not take place, because the plan start date falls before the MRP run date.

Plan start date => Req.date - Total leadtime => 01/15/93 - 17 => 12/30/92

Since the plan start date falls before the MRP run date, the reschedule recommendation will not take place.

Look now at a slightly different case, the difference being that there exists two supply transactions for a demand, and the supply dates are after the demand date. The following is the list of transactions.

DateDocTrans.qtyProj.balNet avail.qty

01/15/93OPSO1000-1000-1000

01/20/93FPO100000

01.22.93FPO500500500

Assume that the first FPO takes a leadtime of 17 days, and the second 9 days. MRP will recommend a production reschedule for the second FPO.

Note:

1. For the purpose of rescheduling, the planned production and planned purchase orders will not be considered.
2. In the case of recommendation for reschedule, all the supply transactions from MRP run date till the MRP horizon date will be considered. Unlike the case of suggestions (production / purchase / transfer), where the inner timefence and outer timefence dates are taken as the range within which the suggestion will take place.
3. Only one supply transaction will be recommended for reschedule against a demand.

Purchase Reschedule:

For the purpose of purchase reschedule, the following document is considered. The transaction under consideration should be a replenishment transaction (trans.qty > 0).

Document Description

PORD Purchase Order

PREQ Approved Purchase Order Requisition

If MRP is not making a recommendation for reschedule, check for the following:

1. Check if the demand warehouse (the warehouse where the sales order or forecast is placed) is covered under the Schedule Warehouse list.

2. Check if a specific warehouse rule exists (warehouse rule for the given item & requirement warehouse)

- Check if Purchase Ind = '1'

3. Check if there exists any replenishment / supply transactions for the item / warehouse with the above document types. If so, check for the following:

- Check if the supply transaction is prior to the requirement date or later than the requirement date.

If the supply transaction date is earlier than the requirement date, and even then reschedule is not recommended, it may be because of one of the following:

- Net requirement(projected bal.qty - safety stock) on the date of the requirement is $\Rightarrow 0$.

- Check whether the plan start date of the purchase order falls before the MRP run date (after subtracting the purchase leadtime for the order from the requirement date)

- The supply transaction is already considered for planning, because of N-days supply or the transaction is already suggested for reschedule for an earlier demand.

If the supply transaction date is later than the requirement, then check for the following:

- Check if the reschedule period in the warehouse rule, for the item / warehouse, is 0

- Check if the plan start date of order falls before the MRP run date (after subtracting the production leadtime for the batch from the requirement date)

- If reschedule period is >0 , and even then it is not recommending, it may be because the supply transaction is later than the reschedule cut off date.

Recommendation for Cancellation

If MRP is not making a recommendation for cancellation for an item, check for the following points:

1. Check if the supply warehouse (the warehouse where the supply order(s) is placed) is covered under the schedule warehouse list.

2. Check if quantity to cancel is >0 for the last transaction for the item and warehouse.

Qty.to cancel => Proj.balance qty of the last transaction - Safety stock

If both the conditions are true, then MRP will recommend for cancellation scanning all the regular supply transactions from the last transaction (that is, the transaction date having a maximum value) for the item and warehouse.

Note:

For cancellation recommendation, the regular orders will be considered and not the MRP-suggested batches/orders. The following is a list of documents that will be considered for cancellation recommendation.

Document Description

PROD Production batch

FPO Firm Planned Orders

PORD Purchase Orders

PREQ Approved Purchase Order Requisitions

"What if" Conditions and Situations

This discussion is about commonly asked questions and conditions regarding MRP.

1. What will happen if an item, which is a product, is manufactured in two different plants, and both plants replenish the item in the same warehouse, and both the plants are covered in the schedule?

You will see the message "More than one Manufacturing Plant exists" for the item and warehouse in the Action Message report(s). Under the above circumstance MRP will make use of whichever plant comes first as the manufacturing plant, and proceed ahead for suggesting production batch(s).

2. What will happen if an item, which is an ingredient, is consumed from more than one warehouse and is defined in the Plant_Warehouse table.?

You will see the message "More than one consumption warehouse" for the item (product), that makes use of the above ingredient. The above message will be seen in the Action Message report(s). Like in the case of product, the first warehouse will be construed as the consumption warehouse, and the requirements will be written against it.

3. What will MRP do when more than one formula, as well as multiple effectivities, exist for an item(product) for the same manufacturing plant with similar parameters (such as min / max qty ,formula use, and preference)?

Under the above circumstance, MRP will make use of the first effectivity and its corresponding formula as the formula for manufacture, and proceed ahead in suggesting production batch(s).

If you want to see which formula MRP has made use of against a planned production batch, do the following:

- Go to the Action Messages Report and bring the action messages pertaining to the item in question. Place the cursor against the planned production batch for which you want to see the formula and version. Now, choose Additional Info from the Actions menu.

4. Why is MRP suggesting for a qty. which is more than the Inventory Shortage qty.?

It may be because of one or more of the following reasons:

- Rule type and / or the min / max qty set up in the respective reorder rule.
- The N-days transactions (demand as well as supply) are consolidated and the net requirement is arrived at. That is, if N-days supply in the warehouse rule for the item is >0, then all the transactions up to the Nth date from the requirement date will be consolidated.

To view these transactions, place the cursor against the Inventory shortage in question and choose Pegging Details from the Actions menu.

Note: The projected bal.qty against the inventory shortage is nothing but the consolidated transaction qty till the requirement date, less the onhand qty (total transaction qty - onhand qty). But when you see the action qty against the suggestion, you may find a different value. This value may also include the safety stock.

Glossary

Buyer/Planner

The person responsible for managing a specific portion of inventory. They do not necessarily purchase the raw materials themselves. However, their schedules generate requests for items that may require raw materials.

Dependent Demand

The need for formula items, need generated by the manufacture of higher-level items. For example, if production of a pound of bread requires 9 ounces of flour, a demand for 100 pounds of bread produces a dependent demand of 900 ounces of flour.

Firm Planned Order (FPO)

An order for a production batch that you definitely intend to make, but not necessarily in the immediate future. Represents a supply source for manufactured goods, and a demand source for batch ingredients.

Fixed Leadtime

That leadtime that does not change as the ordered quantity changes (for example, production setup time, vendor leadtime).

Independent Demand

Demand for an item based directly on open sales orders (and sales forecasts).

Planning Horizon

The number of days after the outer timefence that accommodates items with long lead times. If the due date falls between the outer timefence and the planning

horizon, but the required start date falls before the outer timefence, P / MRP will recommend an action. See Timefence.

Timefence

A guideline which indicates where restrictions or changes in operating procedures occur.

- Inner Timefence is the number of days from the P / MRP run during which you do not want the system to plan any actions.
- Outer Timefence is the number of days from the inner timefence for which you do not want P / MRP to make suggestions.

Variable Leadtime

That leadtime that is proportional to the quantity of an order. For example, a longer leadtime may be required to produce 5000 of an item than 500.

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