Oracle® Process Manufacturing

Production Management

Release 11.0

Part No. A70046-01

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Oracle® Process Manufacturing Production Management

Part No. A70046-01

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Oracle® Process Manufacturing Production Management User's Guide
Part No. A70046-01

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Thank you for helping us improve our documentation.

OPM Production Management Preface

Oracle® Process Manufacturing Production Management Welcome

Welcome to the *Oracle® Process Manufacturing Production Management*.

This user's guide includes the information you need to work with Oracle® Process Manufacturing Production Management effectively.

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

About Oracle® Process Manufacturing Production Management

This guide contains overviews as well as task and reference information about OPM EC Intrastat Reporting. This guide includes the following topics:

- Production Management Prerequisites
- Production Cycle in OPM
- Firm Planned Orders
- Creating and Editing Batches
- Recording Batch Input and Output
- Partial Certification with Backflushing
- Scaling and Theoretical Yield
- Online Inquiries and Reports

Audience for Oracle® Process Manufacturing Production Management

This guide assumes that you have a working knowledge of your business area's processes and tools. It also assumes that you are familiar with other OPM modules. If you have never used Oracle® Process Manufacturing Production Management, we suggest you attend one or more of the Oracle Process Manufacturing training classes available through World Wide Education. For more information about Oracle® Process Manufacturing Production Management and Oracle training see Other Information Sources.

This guide also assumes that you are familiar with the Oracle Applications graphical user interface. To learn more about Oracle Applications graphical user interface, read the *Oracle Applications User's Guide*.

Conventions

Bolded Text

Buttons, fields, keys, menus, and selections are bolded in procedures only. For example: To access the next form click **OK**. Otherwise, references to these features appear in regular type.

Additional Menu Options

Only nonstandard menu options are discussed. Standard menu bar options (such as Save) are not discussed. These standard options are described in the Oracle Applications User's Guide. Only menu options unique to the use of the specific form are discussed.

Field References

References to fields within procedures are in bold type. References within the body of this guide appear in regular type.

Keyboard Mapping

Some keyboards have an Enter key, while some have Return key. All references to this key appear as Enter.

Required Fields

The word "Required" appears as the last word in the field descriptions of all required fields. When the field is required contingent on the entry in another field, or only in specific situations, "Required if..." is the last sentence of the field description.

Fields Reserved for Future Use

Fields with no current processing implications are referenced by the statement, "This field is not currently used" or "Reserved for future use" is shown. Do not use these fields for your own reference data, because there are plans to link future functionality to these fields. Fields intended

for informational use only are referenced by the statement, "This field is for informational purposes only".

Pending/Completed Transactions

Discussions about processing transactions that use the words 'pending' and 'completed' refer to the status of a transaction. Pending and completed do not refer to the database tables that are updated as a result of transactions (for example, some completed transactions are stored in the Pending Transactions table).

Procedures

Each chapter contains a procedure with numbered steps. Any actions which are subordinate to a step are assigned letters.

Note: You can customize your Oracle Application, therefore, all procedures are suggestive only. Navigate to forms and between responsibilities in a way that works best for your particular setup. Also note that fields may appear on your screen in a different order than they are discussed in this guide.

Oracle Process Manufacturing Glossaries

A module-specific glossary is included.

Use of Word "Character"

The word "character" means an alphanumeric character. Characters that are numeric or alphabetic only are referenced specifically.

Note: Depending on your system security profile, you may not have access to all of the forms and functions described in this guide. If you do not see a menu option described in this guide, and you want access to it, contact your System Administrator.

Do Not Use Database Tools to Modify Oracle Applications Data

Because Oracle Applications tables are interrelated, any change you make using Oracle Applications can update many tables at once. If you modify the Oracle Applications data using anything other than Oracle Applications, you could change a row in one table without making corresponding changes in related tables. If your tables are synchronized with each other, you risk retrieving erroneous information and receiving unpredictable results throughout Oracle Applications.

When you use Oracle Applications to modify your data, Oracle Applications automatically checks that your changes are valid. Oracle Applications also track who changes information. If you enter information into database tables using database tools, you could store invalid information. You also lose the ability to track who has changed your information because SQL*Plus and other database tools do not keep a record of changes.

Consequently, we strongly recommend that you never use SQL*Plus or any other tool to modify Oracle Applications data unless otherwise instructed by Oracle Support Services.

Information Sources Related Oracle® Process Manufacturing Production Management

You can choose from many sources of information, including documentation, training, and support services, to increase your knowledge and understanding Oracle® Process Manufacturing Production Management.

Online Documentation

All Oracle Applications documentation is available online on CD-ROM, except for technical reference manuals.

All user's guides are available in HTML and paper. Technical reference manuals are available in paper only. Other documentation is available in paper and sometimes PDF format.

The content of the documentation remains the same from format to format. Slight formatting differences could occur due to publication standards, but such differences do not affect content. For example, page numbers are included in paper, but are not included in HTML.

The HTML documentation is available from all Oracle Applications windows. Each window is programmed to start your web browser and open a specific, context-sensitive section. Once any section of the HTML documentation is open, you can navigate freely throughout all Oracle Applications documentation. The HTML documentation also ships with Oracle Information Navigator (if your national language supports this

tool) which enables you to search for words and phrases throughout the documentation set.

Other Information Sources

Oracle® Process Manufacturing Production Management shares business and setup information with other Oracle products. The following Oracle Applications guides might be useful when you are setting up and using Oracle® Process Manufacturing Production Management.

- Oracle Applications User's Guide

  This guide explains how to enter data, query, run reports, and navigate using the graphical user interface (GUI) available with this release. This guide also includes information on setting user profiles, as well as running and reviewing reports and concurrent processes.

- Oracle Applications Flexfields Guide

  This guide provides flexfields planning, setup and reference information for the implementation team, as well as for users responsible for the ongoing maintenance of Oracle Applications product data. This manual also provides information on creating custom reports on flexfields data.

- Oracle Workflow

  This guide provides information about the Oracle Workflow product. It provides guidance and assistance for automating and routing information of any type according to business rules.

- Oracle Applications System Administrators Guide

  This guide provides planning and reference information for the Oracle Applications System administrator. It contains information on how to define security, customize menus and online help text, and manage processing.

Oracle Process Manufacturing Guides

The following is a list of the documentation in each product group of OPM release 11.0.

System Administration and Technical Reference

- *Oracle Process Manufacturing Implementation Guide*
- *Oracle Process Manufacturing Technical Reference Manuals*

OPM Inventory Control

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

OPM Process Execution

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

OPM Product Development

- *Oracle Process Manufacturing Formula Management User's Guide*
- *Oracle Process Manufacturing Laboratory Management User's Guide*
- *Oracle Process Manufacturing Quality Management User's Guide*

OPM Logistics

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

OPM Process Planning

- *Oracle Process Manufacturing Forecasting User's Guide*
- *Oracle Process Manufacturing Capacity Planning User's Guide*
- *Oracle Process Manufacturing MPS/MRP User's Guide*

OPM Financials

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

Other Sources

Training

We offer a complete set of formal training courses to help you and your staff master Oracle® Process Manufacturing Production Management and reach full productivity quickly. We organize these courses into functional learning paths, so you take only those courses appropriate to your job's area of responsibility.

You have a choice of educational environments. You can attend courses offered by Oracle Education Services at any one of our many Education Centers, or you can arrange for our trainers to teach at your facility. In addition, Oracle training professionals can tailor standard courses or develop custom courses to meet your needs. For example, you may want to use your organization structure, terminology, and data as examples in a customized training session delivered at your own facility.

About Oracle

Oracle Corporation develops and markets an integrated line of software products for database management, applications development, decision support, and office automation, as well as Oracle Applications, an integrated suite of more than 45 software modules for financial management, supply chain management, manufacturing, project systems, human resources, sales and service management.

Oracle products are available for mainframes, minicomputers, personal computers, network computers and personal digital assistants, allowing organizations to integrate different computers, different operating systems, different networks, and even different database management systems, into a single, unified computing and information resource.

Oracle is the world's leading supplier of software for information management, and the world's second largest software company. Oracle offers its database, tools, and applications products, along with related consulting, education and support services in over 140 countries around the world.

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Thank you for choosing Oracle® Process Manufacturing Production Management and this user's guide.

We value your comments and feedback. At the beginning of this guide is a Reader's Comment Form you can use to explain what you like or dislike about Oracle® Process Manufacturing Production Management or user's guide. Mail your comments to the following address or call us directly at (650) 506-7000.

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Production Cycle in OPM

Production Cycle Overview

The primary function of the OPM Production Management module is to record information about production batches. With this module, you can schedule production batches, create firmed planned orders (FPOs), convert FPOs into single or multiple production batches. In addition the PM module is used to allocate ingredients, record actual ingredient usage, certify and complete production batches and record actual product production quantities among other production processes.

Generally, you would use the PM module in conjunction with the OPM Material Requirement Planning (MRP) module to plan your production schedule. If you want to manage your production process by steps, you would use PM with the Process Operations Control (POC) module. An explanation of the production cycle is detailed in the sections that follow.

MRP Planned Orders

When you run OPM MRP, it creates planned production orders, which are recommendations to manufacture a product. These planned orders are under the control of MRP; that is, if the demand which caused MRP to recommend an order is changed or canceled, MRP can resize, reschedule, or delete the planned order. Detailed discussion of MRP is outside the scope of this manual. See the Guide to Oracle Process Manufacturing MPS and MRP and the online help for more information about MRP and planned orders.

Note: You do not have to run MRP and create planned orders to manufacture products. This is an optional step.

Production Cycle Steps

Firm Planned Orders (Optional)

Creating firmed planned orders (FPOs) might be a first step you take in the production cycle. An FPO represents an intent to manufacture a product. Unlike an MRP planned order, FPOs are not controlled by MRP; that is, MRP cannot change or delete them. This is the sense in which they are "firm." An FPO can be created in one of two ways:

- You can create it from an MRP planned order by selecting Approve from the Special menu on the MRP Action Message Inquiry form

- You can enter it directly on the Firm Planned Order form

Generally, you would enter FPOs for MPS (master production schedule) items, which are generally finished goods or saleable items.

Note: You do not have to enter an FPO to manufacture products. This is an optional step.

Creating a Batch

The first step you must take is to create a batch. Creating a batch is the same as scheduling the batch. There are three ways of creating a batch:

- It can be created from an MRP planned order by selecting Approve from the Special menu on the MRP Action Message Inquiry form .

- It can be converted from an FPO by selecting FPO to B~~atch from the Special menu on the Firm Planned Order form.

- It can be entered directly on the Create Batch/FPO dialog box and associated forms.

When you save a batch, it is given a status of Pending.

Simultaneous Multi-user Batch Access

Batch oriented production may require that more than one user simultaneously record user and/or yield for a batch. For example, a batch may pass through several work centers. Each of these may consume a subset of the ingredients, and at one or more of the steps, products or byproducts may be yielded. At each of these centers, the user needs to edit that batch step related information.

Multi-user Batch Access enables multiple users to retrieve and edit just the items associated with a single step. It allows them to edit the material data for a single step (record lot consumption, for example) without locking the entire batch; only the step being edited is locked.

Whole batch functions, such as releasing or certifying a batch, are disabled as long as any part of the batch is locked. If a single step has been retrieved on the Batch Input or Batch Output forms, OPM disables access to the Batches, Batch Ingredients, Batch Byproducts, and Batch Step forms.

Additional fields, Step and Step Status are added to the Batch Input and Output forms when you enable Multi-user Batch Access. To display this field you must turn on POC on for the plant.

When you enter a batch number and step, OPM retrieves only the items associated with that step will be retrieved and only locks that step. You can then record the consumption or yield for those items. At the same time another user can simultaneously enter the same batch number and a different batch step on the Batch Input or Batch Output forms.

Allocating Ingredients

If any of the ingredients in the batch are lot or location controlled, you must tell OPM the lots and locations from which the ingredients are taken to make the batch. You can set up ingredients to be allocated automatically or manually. Refer to the Batch Input and Output chapter, for more information on ways to allocate ingredients.

Timing Ingredient Allocation

In addition to allocating ingredients, you can choose when to allocate ingredients. You can allocate before releasing (or starting) the batch (while the batch has a status of Pending) or after it has been released (when the batch has a status of Work in Process or WIP). When you allocate before releasing, you are specifying the material that will be used in the batch. When you allocate after releasing, you are specifying the material that was used in the batch.

The advantage to allocating before the batch has been released (before the batch has actually been started) is that you can print the Pick List, which provides lot and location information to those staging the material for a production run. You can also have OPM automatically allocate ingredients.

The advantage to allocating after the batch has been released (after production has begun) is that material picking decisions can be made on the floor, while picking.

Note that you can use different allocation methods and timing for different items in a batch. They do not have to be allocated at the same time or by the same method. Before you certify a batch (indicate that the batch is complete), you must allocate all ingredients.

Releasing a Batch

Releasing a batch indicates that the batch has been started. If your batches contains auto-release or incremental release ingredients then it also means that ingredients have been consumed. For ingredient lines set to automatic release, releasing a batch deletes the pending transactions associated with the ingredients and writes completed transactions instead. This action also changes the status of the batch from Pending to WIP (work in process). You release a batch by selecting Release from the Special menu on any of the batch forms (Batches, Batch Ingredients, Batch Byproducts, Batch Input, and Batch Output).

Allocating Products

If any of the products or by-products yielded by the batch are lot or location controlled, you must tell OPM the name of the lot(s) that was produced and the location into which the product was placed. As with ingredients, you can allocate products and by-products any time up until you certify the batch. The products must be allocated in order to certify.

Certifying a Batch

Certifying a batch indicates that the batch has been completed and the products and by-products have been yielded. For product and by-product lines set to automatic certification, certifying a batch converts the pending transactions associated with the products and by-products to completed transactions. This action also changes the status of the batch from WIP to Certified. You certify a batch by selecting Certify from the Special menu on any of the batch forms (Batches, Batch Ingredients, Batch Byproducts, Batch Input, and Batch Output).

If you have not yet allocated any of the ingredients, products, or by-products when you try to certify a batch, OPM will show you those items requiring allocation on the Unallocated Items form. You must allocate those items before the certification process can be completed.

> **Note:** You can still make adjustments to ingredient, product, and by-product quantities after a batch has been certified.

For information on manual or partial certification of product and by-product lines, see Recording Batch Input and Output.

Partial Certification

In continuous processing, ingredient quantities are often consumed incrementally and product quantities are yielded incrementally. In order for inventory levels to be updated in a timely manner, you want to record consumption and yield incrementally, as it happens. Also, you want to be able to calculate usage from the product yield.

Partial certification in OPM enables you to incrementally record production output as it occurs, prior to the batch being completed (partial certification) and then have OPM calculate the ingredient usage (backflushing).

You initiate partial certification in WIP batches by selecting Partial Cert from either the Production menu or the Edit menu on the any of the Batches forms (Batches, Batch Ingredients, Batch Byproducts, Batch Output or Batch Input forms). This displays the Partial Certification dialog box. At this dialog box, you can either enter an incremental quantity, a new actual quantity or a new percent of plan (Actual Quantity/Planned Quantity x 100). When the user selects Accept, a new actual quantity is calculated for all the items in the batch which have a release type of incremental. If you selected Partial Cert from the Production menu, OPM saves the batch. If you accessed Partial Certification from the Special menu on a form, OPM returns you to that form. You can then edit the calculated actual quantities or enter additional allocations, before saving.

Direct Certification

It is possible to skip many of the steps described above through the process of direct certification. You can perform direct certification on a batch which has a status of New (that is, a batch which has not yet been saved), or a batch which has a status of Pending (a batch which has not yet been released). Using direct certification on a New batch is generally used to record a batch which was run but had not been scheduled in Oracle OPM. To perform a direct certification on a New batch, you must access the Create Batch/FPO dialog box from the Batches form. You are returned to the Batches form after completing the dialog box, and the batch has a status of New. Do not save the batch. Instead, select Certify from the Special menu on any of the batch forms. The Batch will be saved with a status of Certified.

Although direct certification of new batches is simpler and quicker than the standard batch process, it should generally be used only for unscheduled batches which must be recorded after the fact. It is not recommended that this method be generally used, because it does not provide the scheduling and inventory commitment information which is provided by entering batches ahead of time.

Note: For more information on partial certification, refer to the section, Partial Certification with Backflushing in the Entering and Editing Batches chapter.

Closing a Batch

The final step in the production cycle is closing the batch. Closing a batch prevents any further editing of the batch. This should be done after you are confident that all of the batch information has been recorded correctly. You close a batch by selecting Close from the Special menu on any of the batch forms.

Additional Batch Actions

There are two additional actions that can be performed on a batch, Canceling and Unreleasing.

Canceling a Batch

A batch can only be canceled if it has a status of Pending. Canceling a batch deletes all of the pending transactions associated with the batch. Cancel a batch by selecting Cancel from the Special menu on any of the batch forms.

Unreleasing a Batch

The other action that you can perform on a batch is unreleasing it. This reverses the completed transactions associated with the ingredients in the batch and writes pending transactions. You unrelease a WIP batch by selecting Unrelease from the Special menu on any of the batch forms. Note that if you have allocated any of the ingredients in the batch, unreleasing the batch will not delete the allocations, but it will change the transaction status from completed to pending. Since only Pending batches can be canceled, if you want to cancel a WIP batch, you must first unrelease the batch and then cancel it.

Production Management Prerequisites

Production Management Prerequisites Overview

You must set up certain data in other OPM modules before you can use the Production Management (PM) module. For example, units of measure must be set up in the System module, items in the Inventory module, and formulas in the Formula Management module. Each of the prerequisites for PM are described below.

OPM System Module Prerequisites

The following data must be set up in the OPM System module before you can use PM. This will usually be done by the System Administrator. For more information about each of the functions described below, see the *Oracle Process Manufacturing Implementation Guide* and online help for the appropriate forms.

- Unit of Measure Types

  This involves defining categories of units of measure, such as mass, volume, or count.

- Units of Measure

  This involves defining units of measure. When you define a new unit of measure, you specify the UOM type to which it belongs, and a conversion factor to convert the new unit of measure to the reference unit of measure (the first unit of measure defined for that UOM type).

- Organizations

  This involves setting up the plant(s) in which production batches are made. Warehouses are then linked to the plants for inventory transaction purposes

- Document Ordering

    This involves defining the way documents, such as production batches, are numbered. You specify whether they will be numbered automatically (sequentially) or manually. If you choose automatic document ordering, you also specify the length of the document numbers. You must define document ordering for the following document types before they can be used in PM:

    - PROD - Production batches
    - FPO - Firm planned orders

Oracle Applications System Administration Module Prerequisites

If necessary, change the Release Type System Profile Option in Oracle Applications System Administration Module.

In order to use partial certification with backflushing, lines in formulas and production batches must be set up for incremental release. One way to do this is to set the FM$DEFAULT_RELEASE_TYPE switch to 2.

Inventory Management Module Prerequisites

The following data must be set up in the Inventory Management module before you can use PM. For more information about the Inventory Management module, see the *Oracle Process Manufacturing Inventory Management User's Guide* and the online help for the appropriate forms.

- The Inventory Calendar

  You must set up an inventory calendar to enter transactions in OPM.

- Items

  This involves setting up the items which will be the ingredients, products, and byproducts in your batches. Among other things, you specify the following characteristics:

  - Whether the item will use single or dual unit of measure control

  - The item's primary inventory unit of measure (and secondary unit of measure if dual-UOM controlled)

- Whether the item is lot/sublot-controlled

- Whether the item is location-controlled

Note: See the Inventory Item Decisions topic later in this section for more information about lot and location control.

- Whether the item is status-controlled

- The item's allocation class

  Item/Lot Unit of Measure Conversions

  This involves setting up unit of measure conversions between units of measure of different unit of measure types. Although unit of measure conversions within UOM types are set up globally in the System module (on the Unit of Measure form), conversions across UOM types must be set up at the item, lot, or sublot level. For example, the conversion from pounds to gallons (mass to volume) is different for water than for ethanol because they have different densities.

- Warehouses

  This involves defining the warehouses in which items are stored.

- Allocation Classes

  This is used to link items with allocation parameters. This is only required if you are using automatic (rule-based) allocation. See the *Allocation Parameters* topic and the Batch Input and Output section for more information on automatic allocation and allocation classes.

- Allocation Parameters

  This involves defining the rules by which OPM will perform automatic (rule-based) allocations. See the Allocation Parameters topic later in this section and the Batch Input and Output section for more information on automatic allocation and allocation parameters.

- Production Rules

  This allows you to specify a standard production quantity for your items. This will control the default batch size when you create batches. You can also specify fixed and variable leadtimes for your items. OPM will use these to calculate the completion date and time of a batch if you enter the start date on the Create Batch/FPO dialog box.

  These production rules provide default values; it is not necessary to set them up in order to create batches.

Production Management and Inventory Item Decisions

This section discusses inventory item decisions and their specific impact on the PM module.

Inventory Item Decisions - Lot/Sublot Control in PM

When an ingredient in a batch is lot controlled, you must either tell OPM which lot was used in the batch (manual allocation) or have OPM tell you which lot to use in the batch (auto-allocation). Likewise, when a product in a batch is lot controlled, you must tell OPM which lot was produced. The different methods of allocating are discussed in the *Recording Batch Input and Output* section.

Inventory Item Decisions - Allocation Method in PM

For lot-controlled items which will be ingredients in your batches, you must decide whether to use automatic auto-allocation, user-initiated auto-allocation, or manual allocation. If you are going to use one of the auto-allocation methods, you must associate the item with an allocation class. The allocation class, in turn, must be associated with allocation parameters that specify the rules OPM will use to allocate.

The Allocating Ingredients topic in the *Recording Batch Input and Output* section provides guidelines for deciding which allocation method to use.

Master Production Schedule Prerequisites

The following data must be set up in the Master Production Schedule (MPS) module. For more information about MPS, see the *Oracle Process Manufacturing MRP/MPS User's Guide* and the online help.

- Plant/Warehouse/Item Relationships

  This involves specifying the warehouse from which a plant consumes each item when it is used as an ingredient in a batch, and the warehouse which a plant replenishes with each item when it is a product of a batch. See the Plant/Warehouse/Item topic later in this section for more information.

Formula Management Prerequisites

The following data must be set up in the Formula Management module before you can use PM. Formulas are the basis for production batches. They contain the ingredients, ingredient quantities, products, product quantities, byproducts and byproduct quantities. If desired you can associate a routing (steps in the formula) to a formula. Routings For more information on formulas see the *Oracle Process Manufacturing Formula Management User's Guide* and the online help for the appropriate forms.

- Formulas

  This involves defining the formulas upon which batches are based. Formulas specify the ingredients consumed and the products and the products and by products yielded by batches, and the quantities of each.

- Routings (optional)

  This involves specifying the process or steps that are taken to manufacture a product. To define a routing you must do the following:

  - Define Activities on the Activities form

    This involves defining the actions performed during production, for example, mixing or cooling. Activities should be divided by logical breakpoints in the manufacturing process.

  - Define Operations on the Operations form

    An operation is a combination of activities performed in production and the resources used to perform those activities. A resource is any noninventory item used in production, such as an oven

  - Define Routing Steps on the Routing form

Formula Management Module - Effectivities

This involves specifying which formula(s) can be used to make a certain product under a given set of conditions. Among the parameters you can specify are the following:

- The first and last dates the formula can be used.

- The minimum and maximum product quantities that can be produced with the formula.

- The purpose for which the formula can be used - production, planning (MRP and firm planned orders), or costing.

- The routing to be used.

Plant/Warehouse/Item Relationships

For each item which is used as an *ingredient* in a batch, you must specify the warehouse from which that ingredient is *consumed*. For each item which is used as a *product* or by-product, you must specify the warehouse which is *replenished* by the plant. Since items can be both ingredients and products, you can specify both consumption and replenishment warehouses for each item.

Use the Plant Warehouses form to specify the warehouses from which a plant consumes ingredients and the warehouses which the plant replenishes. The consumption warehouse specified for an item on this form will be used as the *default* on transactions when you enter a batch which uses this item as an ingredient. If the item is auto-allocated, this is the warehouse from which OPM will attempt to allocate the ingredient quantity. If you want the batch to consume from a different warehouse, you can edit the warehouse on the transaction using the Batch Input form.

The replenishment warehouse specified for an item on this form will be used as the *default* on transactions when you enter a batch which produces this item. If you want to replenish a different warehouse, you can edit the warehouse on the transaction on the Batch Output form.

Multiple Consumption/Replenishment Warehouses

For each plant, you can set up multiple consumption and replenishment warehouses for each item. If you set up more than one consumption or replenishment warehouse for an item, OPM will select one to use as the default for batch transactions. OPM selects the warehouse code which comes first in ASCII sort sequence (blanks, non-alphanumeric characters, numeric characters, upper case alphabetic characters, lower case alphabetic characters). If you want to use a different warehouse, you can edit the warehouse on the transaction as described above.

Note: The definition of consumption and replenishment warehouses does not restrict what warehouses you can use if you edit the warehouse on a transaction. For example, you can change the warehouse on an ingredient transaction to one which is not specified as a consumption warehouse for that item.

Multiple Items Plant Warehouses Shortcut

If you have multiple items which have the same consumption and replenishment warehouses, you can use a shortcut to enter the consumption and replenishment rules, rather than entering each item individually on the Plant Warehouses form. When you enter the items on the Items form, enter one code in the Warehouse Item field for all of the items which share the same consumption and replenishment rules. Then, use that warehouse item code in the Warehouse Item field on the Plant Warehouses form, and the consumption and replenishment rules will apply to all of the items which use that warehouse item code.

If all of your items use the same consumption and replenishment warehouses, leave the Warehouse Item field on the Plant Warehouses form blank.

Note: The consumption and replenishment rules you set up do not take effect until you log out of OPM and log back in.

Note: For more information on the Plant Warehouses form, refer to the *Oracle Process Manufacturing MPS/MRP User's Guide*.

Allocation Parameters

You define the rules which OPM uses for auto-allocation on the Allocation Parameters form. This is also where you specify whether an automatically allocated item will use fully automatic auto-allocation (in which allocation is performed when the batch is first saved) or user-initiated auto-allocation. Refer to the Batch Input and Output section for more information on auto-allocation.

The rules you define on this form will apply to an allocation class/warehouse combination. Each item can belong to only one allocation class. However, since you can associate different allocation parameters to an allocation class for different warehouses; items which belong to an allocation class can be allocated according to different rules in different warehouses. The relationship between items, allocation classes, warehouses, and allocation parameters is illustrated in below.
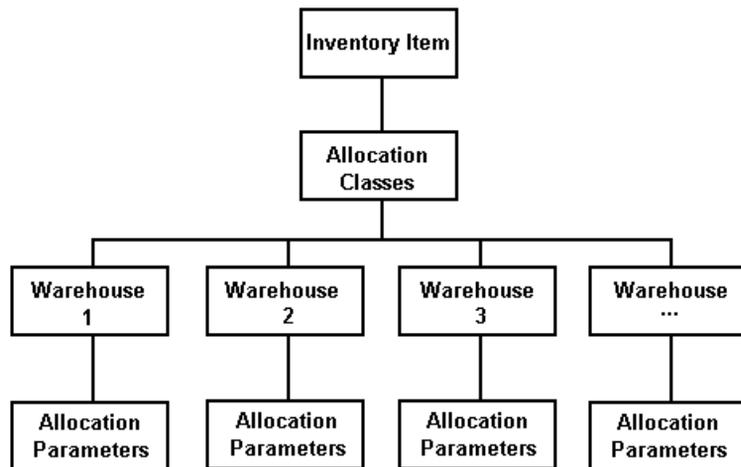
Relationship Between Items and Allocation Parameters

Setting Up POC

The Process Operation Control (POC) module enables you to record more detailed production data. POC provides the ability to collect production data by step. In addition it records the actual consumption of non-material resources, such as labor, machine time and utilities.

Setting Up POC - Procedure

If you decide to use POC, you must do the following:

1. Turn on POC for the Plant
2. Create Routings
3. Associate Routing Steps with Formula Items

Turn on POC for the Plant

On the Organizations form, you must designate an organization as a plant and activate POC for an plant in which you want to use.

1. You must set the **Plant Indicator** field to **Manufacturing Plant.**
2. You must set the **Process Operation Control** indicator to **Data Collected**.

Note: In order to turn on Simultaneous Multi-user Batch Access, you must turn this indicator on for the plant.

Create Routings

Routings define the processes or steps that are taken to manufacture a product. For more information on how to create routings, refer to the *Oracle Process Manufacturing Formula Management User's Guide* .

Associate Routing Steps with Formula Items

The Routing Step/Formula Items form is used to associate the routings steps of a manufacturing process to items that are introduced into a process (ingredients) or yielded from (products) the production process. For more information on this form, refer to the *Oracle Process Manufacturing Process Operations Control User's Guide*

Simultaneous Multi-User Batch Access

To use the simultaneous multi-user batch access, you must turn on POC for the plant. You must also define routings and associate the routings with formulas through formula effectivities. Items in the formulas (ingredients, products, and/or byproducts) must be associated with routing steps using the Routing Step/Formula Items form.

When a batch is created, each routing step becomes a batch step, and the associations are copied, so that each routing step/formula item association becomes a batch step/batch item association. Batch items can also be associated with batch steps using the Batch Step/Batch Items form (for items or steps added to the batch that were not in the formula or routing). These item/step associations group the items in the batch by step.

When you turn on POC, the Step field is displayed on the Batch Input and Batch Output form. When you enter a batch number and step, only the items associated with that step will be retrieved, and only that step will be locked. You can then record consumption or yield for those items. As you are doing this, another user will be able to simultaneously enter the same batch number and a different batch step on Batch Input or Batch Output, and work with the items associated with that batch step.

Whole batch functions, however, will be disabled as long as any part of the batch is locked. Whole batch functions are those functions which affect an entire batch, such as releasing or certifying a batch, as opposed to single-step functions, such as entering allocations for the items associated with a step. If a single step has been retrieved on the Batch Input or Batch Output forms, access to the Batches, Batch Ingredients, Batch Byproducts, and Batch Steps forms will be disabled, since these forms are not keyed by step.

Setting Up Simultaneous Multi-User Batch Access - Procedure

1. Turn on POC for your plant on the Organizations form.

2. Define formulas on the Formulas form (as in previous versions of OPM

3. Define resources on the Resource form

4. Define activities on the Activities form

5. Define operations, linking resources and activities, on the Operations form

6. Define routings on the Routings form. There should be as many steps in the routing as there are subsets of items into which you want to divide your batches. For example, there are three workcenters, and you want to edit the batch lines associated with each workcenter together without locking the batch lines of other workcenters, create three steps in the routing.

7. Associate formulas with routings on the Maintain Effectivities form.

8. Associate items in the formulas with steps in the routings on the Routing Step/Formula Items form. This is how you group the items.

Firm Planned Orders

Firm Planned Order Overview

Firm planned orders (FPOs) represent a plan to manufacture a product. They are "firm" in the sense that MRP cannot change or delete them.

FPOs are designed for medium and long range production planning. An FPO is similar to a production batch in the sense that it creates the notion of time-phased supply and demand (and creates pending transactions), but it will not establish commitments against current on-hand inventory. This effectively separates medium and long range demand from close range batch demand. Since an FPO does not commit current inventory, you cannot allocate inventory to it. When a planner is confident that an FPO will be executed and is ready to commit materials to it, the FPO can be converted into one or more batches.

Since you can convert an FPO into multiple, simultaneous or consecutive batches, FPOs can be used for aggregate production planning and as a multi-batch entry tool.

For example, to use an FPO for aggregate production planning, you could model a weeks worth of production with one FPO. The FPO could start Monday morning, end Friday evening, and consume and yield the equivalent of five batches. For medium and long range planning, this is an efficient way to model intended production. The FPO can later be converted into five batches to provide a more accurate close range plan.

You can create an FPO as follows:

- You can create it from an MRP planned order by clicking Approve on the P/MRP Action Message Inquiry form.

- You can enter it using the Create Batch/FPO dialog box. See the discussion on the Create Batch/FPO dialog box.

When it comes time to manufacture your product, you can "convert" an FPO to one or more batches using the Firm Planned Order to Batch Conversion dialog box. Strictly speaking, FPOs are not converted to batches. Rather, FPOs serve as a guide for the batches, automating the creation of the new batches and eliminating the necessity of entering them manually.

When you "convert" the FPO to one or more batches, OPM selects the formula effectivity to use for the batches if only one qualifies. This may or may not be the one used for the FPO. For example, if the FPO was based on a formula version which is effective for planning but not for production, that formula version cannot be used for the batches. Likewise, if the date or quantity of the batch is outside of the range specified by the effectivity used for the FPO, a different effectivity must be used for the batches.

While OPM selects the effectivity to use for the batches if only one qualifies, you must select an effectivity record if more than one qualifies. OPM displays the valid effectivity records on the View Effectivities form, and you select the one to use for the batches. If you are converting the FPO to more than one batch, you have the option of using one effectivity record for all of the batches, or selecting different effectivity records to be used for different batches. You would select different effectivity records for different batches if some batches were to be manufactured using one routing and others using another. Likewise, if you wanted to use different formula versions for the different batches, you would have to select different effectivity records for the different batches.

Because the batches created from FPOs are based on a formula as it was set up in the Formula Management module, and not on the FPO itself, you cannot edit the products, ingredients, or byproducts on an FPO. You also cannot directly edit the quantities of these items. Since the batch is based on a formula, not directly on the FPO, if you were permitted to edit these fields on the FPO, the changes would be lost when you "converted" the FPO to a batch

You can, however, scale the FPO. This is permissible because the batch is based on the FPO product quantity. Therefore, the batch is automatically scaled when it is created.

You can also perform a theoretical yield calculation on an FPO. This changes the product quantity without changing ingredient quantities. You should be careful if you use this with FPOs, because when you convert the FPO to a batch, the batch will not automatically have the same yield percent as the FPO. It will have the same product quantity as the FPO (unless you specify a different quantity on the Firm Planned Order to Batch Conversion dialog box), but the ingredients will be scaled. If you want the batch to look like the FPO, you should enter the original FPO product quantity (prior to calculating theoretical yield) in the Qty Per Batch field on the Firm Planned Order to Batch Conversion dialog box. Then, after the batch has been created, perform the same theoretical yield calculation on the batch that you performed on the FPO.

Defining FPO Header and Product Information

Use the Firm Planned Order form to enter header and product information for a FPO.

Note: This form has the Attachments option and Descriptive Flexfields available. For more information, refer to the *Oracle Applications* user's guide.

Defining FPO Header and Product Information - Procedure

1. Navigate to the **Firm Planned Order** form.

2. If you are creating a new FPO, press **Tab**. The **Create/FPO Batch** form is displayed. See the *Creating Batches or FPOs* section.

3. Complete the fields as described in the *Firm Planned Order Form - Fields* topic.

4. Save the form.

Note: You cannot directly edit the product quantity fields on this form. To change quantities, select Scale Batch from the Special menu.

Firm Planned Order Form - Fields

The sections that follow describe the fields in the Firm Planned Order header and Products panels.

FPO Header Panel

Firm Planned Order

To edit an existing FPO, enter the FPO number using Query Find or Query Enter.

To enter a new FPO, proceed accordingly:

- If you are using automatic document numbering proceed to the next field. The word "New" is displayed and the Create Batch/FPO dialog box is displayed. This dialog box is described in the *Creating and Editing Batches* section. When you save the FPO, an FPO number will be assigned and displayed in this field.

- If you are using manual document numbering for FPOs, enter the new FPO number. The Create Batch/FPO dialog box is displayed. This dialog box is described in *the Creating and Editing Batches* section.

Note that the FPO number is preceded by your default organization code. The combination of this code and the FPO number uniquely identify an FPO.

Status

The current status of the FPO (New, Pending, Converted FPO, or Canceled) is displayed. the Create Batch/FPO dialog box is displayed. This dialog box is described in the Creating and Entering Batches section. .

Formula

Displays the formula and version on which you want the batch based, enter the formula code in this field. This field cannot be edited.

(Unlabeled)

Displays the formula version field. Enter the version number in this field. This field cannot edited.

WIP Warehouse

Enter the code of the warehouse used for work in process. The description associated with the warehouse code is displayed.

Planned Start

Displays the date and time you plan the batch to start. The system current date and time when you enter the FPO is the default. You can not edit this field.

Planned Completion

Displays the date and time you plan the batch to be completed. The planned start date is the default. You cannot edit this field.

Required Completion

Enter the date and time by which the batch must be completed. This field is for informational purposes only. The planned completion date is the default. Required.

FPO Products Panel

Seq

This field displays the line number for each product line. This field cannot be edited.

Item

This field displays the code for the item to be produced by the batch.

Description

This field displays the description associated to the product's item code.

Planned Qty

The product quantity defaults from the formula. You cannot edit this field.

UOM

The unit of measure in which the quantity is expressed is displayed. You cannot edit this field.

Products

The number of products produced by the FPO is displayed.

Byproducts

The number of byproducts produced by the FPO is displayed. You cannot edit this field.

Ingredient

The number of ingredients produced by the FPO is displayed. You cannot edit this field.

Finding Firm Planned Orders

There are several options for locating a record and populating a form. The List of Values option displays a dialog box with the appropriate records. The Query Find option displays a separate block called the Find form, where you enter your search criteria.

Finding Firm Planned Orders - Procedure

Take the following steps:

1. Choose **Find** from the **Query** menu.
2. Complete one or any combination of fields as described in the *Find Firm Planned Orders - Fields* topic.
3. Click **Find**.

Finding Firm Planned Orders - Fields

Status

Enter the current status of the FPO (New, Pending, Converted FPO, or Canceled).

Firm Planned Order

Enter the FPO number.

Formula

Enter the formula code on which the FPO is based.

Version

Enter the version number of the formula.

Routing

Enter the routing ID number.

Version

Enter the routing version number.

WIP Warehouse

Enter the WIP warehouse for the FPO.

Planned Start

Enter the planned start date.

Planned Completion

Enter the planned completion date.

Required Completion

Enter the required completion date.

FPO Header and Products - Special Menu

Additional Edit

Accesses the Additional Edit dialog box which allows you to enter additional information, such as scale type and release type, for each ingredient line.

Scale Batch

Accesses the Scale Batch dialog box which allows you to scale the quantities of the ingredients, products, and byproducts in the FPO.

Theoretical Yield

Accesses the Calculate Theoretical Yield dialog box which allows calculation of the product quantities based on the ingredient quantities and a yield factor. You can only use this option when entering a new FPO. Note that the theoretical yield you enter is not automatically carried over to batches based on the FPO.

Edit Parent

Accesses the parent batch and allows you to edit it if you are editing a phantom batch.

FPO to Batch

Accesses the Firm Planned Order to Batch Conversion dialog box. You use this to convert an FPO into one or more batches.

Cancel

Cancels the FPO. An FPO can only be canceled if it has a Pending status. Canceling an FPO deletes the pending transactions associated with the FPO.

Reschedule

Accesses the Reschedule dialog box, where you can reschedule the FPO.

Reroute

Accesses the View effectivities form from which you can select an effectivity with a different routing.

Firm Planned Order Form - Buttons

Byproducts

Accesses the FPO By-products form.

Ingredients

Accesses the FPO Ingredients form.

Viewing FPO Ingredients

Use the FPO Ingredients form to view ingredients and ingredient quantities for an FPO. The ingredients from the formula on which the FPO is based default onto this form. None of the fields on this form can be edited directly. To change item quantities throughout the FPO, select Scale Batch from the Special menu.

The number of products, byproducts, and ingredients in the formula are displayed at the bottom of the form. These fields cannot be accessed.

Firm Planned Order Ingredients Form - Fields

This section describes the fields on the Firm Planned Order Ingredients form.

Header Panel

Batch

The Organization code and the FPO number are displayed.

Status

The status of the FPO (New, Pending, Converted FPO, or Canceled) is displayed.

Product1

The first product made by this FPO is displayed.

Ingredients Panel

Seq

This field displays the line number for each ingredient line.

Item

The item codes of the ingredients in this FPO display from the formula on which the FPO is based.

Description

The item description of the ingredients defaults from the item master table.

Plan Quantity

The ingredient quantity for the FPO is displayed. This is based on the ingredient quantity from the formula on which the FPO is based. It may have been scaled if you created the FPO for a quantity other than the formula quantity.

UOM

The unit of measure in which the quantity is expressed is displayed.

Firm Planned Order Ingredients Form - Buttons

Byproducts

Accesses the Firm Planned Order Byproducts form. This form is described in detail later in this section.

Products

Accesses the Firm Planned Order form.

Firm Planned Ingredients Form - Special Menu

Additional Edit

Accesses the Additional Edit dialog box which allows you to enter additional information, such as scale type and release type, for each ingredient line. This is described in detail later on in this guide.

Scale Batch

Accesses the Scale Formula dialog box which allows you to scale the quantities of the ingredients, products, and byproducts in the FPO.

Theoretical Yield

Accesses the Calculate Theoretical Yield dialog box which allows calculation of the product quantities based on the ingredient quantities and a yield factor. You can only use this option when entering a new FPO. Note that the theoretical yield you enter is not automatically carried over to batches based on the FPO.

Edit Parent

Accesses the parent batch and allows you to edit it if you are editing a phantom batch.

Edit Phantom

If the cursor is on a phantom ingredient, this retrieves the phantom batch.

Create Phantom

If the cursor is on an unexploded phantom, this option accesses the Create FPO/ dialog box on which you can create the phantom FPO.

Viewing FPO Byproducts

Use the FPO Byproducts form to view byproducts and byproduct quantities for an FPO. The byproducts from the formula on which the FPO is based default onto this form. Byproducts are items produced by a formula, but differ from products in that you do not plan your production to make byproducts, and you cannot cost byproducts. None of the fields on this form can be edited directly. To change item quantities throughout the FPO, select Scale Batch from the Special menu.

The number of products, byproducts, and ingredients in the formula are displayed at the bottom of the form. These fields cannot be accessed.

Firm Planned Order Byproducts - Fields

This section describes the fields on the Firm Planned Order Byproducts form.

Header Panel

Batch

The Organization code and the FPO number are displayed.

Status

The status of the FPO (New, Pending, Converted FPO, or Canceled) is displayed.

Product1

The first product made by this FPO is displayed.

FPO Byproducts Panel

Seq

This field displays the line number for each product line. This field cannot be edited.

Item

This field displays the code for the byproduct produced by the batch.

Description

This field displays the description associated to the byproduct's item code.

Planned Qty

The byproduct quantity defaults from the formula. This is based on the byproduct quantity from the formula on which the FPO is based. It may have been scaled if you created the FPO for a quantity other than the formula quantity.

UOM

The unit of measure in which the quantity is expressed is displayed. You cannot edit this field.

Products

The number of products produced by the batch is displayed.

Byproducts

The number of byproducts produced by the batch is displayed. You cannot edit this field.

Ingredient

The number of ingredients produced by the batch is displayed. You cannot edit this field.

Firm Planed Order By-products Form - Buttons

Ingredients

Accesses the Firm Planned Ingredients form.

Product

Accesses the Firm Planned Order form.

Firm Planned Order By-products - Special Menu

Additional Edit

Accesses the Additional Edit dialog box which allows you to enter additional information, such as scale type and release type, for each ingredient line.

Scale Batch

Accesses the Scale Formula dialog box which allows you to scale the quantities of the ingredients, products, and byproducts in the FPO.

Theoretical Yield

Accesses the Calculate Theoretical Yield dialog box which allows calculation of the product quantities based on the ingredient quantities and a yield factor. You can only use this option when entering a new FPO. Note that the theoretical yield you enter is not automatically carried over to batches based on the FPO.

Edit Parent

Accesses the parent batch and allows you to edit it if you are editing a phantom batch.

Selecting Effectivities

The View Effectivities form allows you to select the effectivity record you want to use in creating an FPO or batch. An effectivity record links a formula with a routing and specifies the time period during which the formula/routing can be used, the quantities it can be used to produce, and the purpose for which it can be used (production, planning, costing).

The View Effectivities form is displayed in the following circumstances:

- When you complete the Create Batch/Firm Planned Order dialog box and select OK. This form will list effectivities which satisfy the criteria specified on the Create Batch/FPO dialog box.

- When you convert an FPO to one or more batches. This form will list effectivity records for all formulas which can be used to produce the specified quantity of the item on the specified start date.

If you are entering an FPO, this form will display planning effectivity records as well as production effectivity records. If you are converting an FPO to one or more batches, or are entering a batch, this form will only display production effectivity records. Highlight the indicator box of the formula you want to use.

The View Effectivities form is only displayed if more than one effectivity record qualifies.

For more information on effectivity records, see the *Oracle® Process Manufacturing Formula Management User's Guide*.

View Effectivities - Fields

Organization

The organization code for this effectivity record is displayed. If this field is blank, the effectivity record applies to all organizations.

Min Qty

The minimum production quantity for which this formula is effective is displayed.

Max Qty

The maximum production quantity for which this formula is effective is displayed.

UOM

The unit of measure in which the minimum and maximum quantities are expressed is displayed.

Formula

The formula with which this effectivity record is associated is displayed.

Version

The version of the formula with which this effectivity record is associated is displayed.

Routing

The routing specified in this effectivity record is displayed.

Version

The version of the routing specified in this effectivity record is displayed.

Note: The values in the remaining fields change depending on the line on which the cursor is positioned.

Start Date

The first date the formula is effective is displayed.

End Date

The last date the formula is effective is displayed.

Standard Qty

The standard quantity for the effectivity record is displayed.

Customer

The customer code specified on the effectivity record is displayed.

Preference

The preference number for the effectivity record is displayed. This prioritizes effectivity records when multiple effectivity records are valid for a given set of conditions. The lower the preference number, the higher the priority.

Formula Use

The purpose for which the formula can be used (Production, Planning, Costing or Regulatory) is displayed.

Rescheduling FPOs

Use the Reschedule dialog box to reschedule an FPO. You can change the planned start date and time on an FPO that has a status of New or Pending, and the planned completion date and time of a FPO that has a status of New, Pending, or WIP.

Changing the planned start date and time changes the date and time on the pending ingredient transactions. Changing the planned completion date and time changes the date and time on the pending product and byproduct transactions.

If you change one field, OPM will ask if you want to apply the change to the other field. If you answer Yes, OPM calculates the difference between the original date and time and the new date and time, and applies that to the other field. For example, if you push the planned start date three days ahead, OPM will also push the planned completion date three days ahead.

Rescheduling FPOs - Procedure

1. Navigate to the **Reschedule** dialog box.
2. Complete the fields as described in *the Reschedule Dialog Box - Fields* topic.
3. Click **OK**.

Reschedule Dialog Box - Fields

Planned Start

Enter the new planned start date for the FPO. You can only edit this field if the FPO has a status of New or Pending.

Planned Complete

Enter the new planned completion date for the FPO.

Converting an FPO to a Batch

Use the Firm Planned Order to Batch Conversion dialog box to create one or more batches based on the FPO. Select Special > FPO to Batch from the Firm Planned Order form. The top portion of this form is populated with data referring to the parent FPO and the lower portion of the form holds data that refers to individual production batches.

You cannot edit the lower portion of the form until you complete the upper portion. Once the cursor leaves the upper portion you can no longer edit it.

Edit the batch creation detail lines data such as Qty per Batch, Start Date, or Planned Completion Date until satisfied. Then select 'Accept' to begin processing the batches. Once you have selected 'Accept' the system:

- Examines each batch creation line

- Performs effectivity validation

- Checks for inventory shortages

- Assigns and displays a batch number

- Auto-allocates lots where inventory is available if auto-allocation is set up.

Note: Since an FPO can be based on a planning formula (that is, a formula with an effectivity record that specifies Planning rather than Production as the formula use), which cannot be used as the basis for a batch, the View Effectivities form is displayed once you complete the Firm Planned Order to Batch Conversion dialog box. The View Effectivities form is only displayed if more than one effectivity record qualifies.

Firm Planned Order to a Batch Conversion - Fields

Product1

The item code for the first product produced by the FPO displays.

Start

(Planned Dates panel)

Enter a new batch start date, or press Tab to accept the default shown. If you enter a date in this field or accept the default the system will forward schedule (compute the end date from working forward from the start date), all batches associated with the current FPO. Once you press Tab, the Completion Date field is no longer accessible. The completion dates of the batches are automatically calculated.

Enter the date in DD-MON-YYYY format.

Completion

(Planned Dates panel)

Accept or change the completion date of the batch on this line. The default is the FPO completion date. If you enter a value in this field or accept the default, the system will back schedule (compute the start date by working backward from the end date), all the batches associated with the current FPO.

Qty Per Batch

Enter the quantity of the product to be made by each batch created from the FPO or press the Return key to accept the default shown.

Batches

Specify the number of batches to be made from the FPO. The default is '1'.

Leadtime

Enter the number of hours required to make one batch. This is added to the start date of each batch to calculate the completion date. This will default from Production Rules.

Offset Type

This function is only available when multiple batches are being scheduled. Enter the code indicating the multiple batch scheduling method you want to use. Two scheduling options are available.

If you select Start to Start, the offset you specify in the Batch Offset field will be added to the start date/time of one batch to calculate the start date/time of the next batch.

If you select End to Start, the offset will be added to the end date/time of one batch to calculate the start date/time of the next.

Batch Offset

Enter the amount of time, in hours, between batches. This field is dependent upon the scheduling method selected in the Offset Type field.

If Start to Start (parallel) is selected as the offset type, the value entered indicates the number of hours from the start of one batch to the start of another batch.

For example, if 2 is entered and Batch#1 starts at 1:00PM, the system will schedule the next batch to begin at 3:00PM.

If End to Start (serial scheduling) is selected as the offset type, the value entered indicates the number of hours from the end of one batch to the start of another batch.

For example, if 2 is entered and Batch#1 is planned to be completed at 2:00PM, the system will schedule the next batch to begin at 4:00PM.

Note: This field is only accessible if you are creating multiple batches.

FPO Quantity

The quantity of the product from the FPO is displayed.

Assigned

This field displays the quantity per batch multiplied by the number of batches. It may exceed the original FPO quantity.

Unassigned

This field displays the difference between the FPO Quantity and Assigned fields.

Seq

This field displays the sequential number for each batch.

Plant

This field displays the plant ID code.

This field is only accessible if you are using manual numbering for batches. Enter the new batch number. For auto numbering, this field will be updated after the conversion process is completed.

Note: Batch numbers may not be sequential when phantom batches are being used.

Batch Quantity

Enter the quantity of the product to be produced by the batch. The quantity you entered in the Qty Per Batch field is the default.

Planned Start

Accept or change the planned start date of the batch on this line. If you are forward scheduling, the date entered in the Start Date field is the default for the first batch. Subsequent batch start defaults are dependent on the offset time and offset type. Enter the date in DD-MON-YYYY format.

Planned Complete

Accept or change the end date of the batch on this line. The default is calculated based on the default start or end date, the number of hours you entered in the Total Leadtime field, the offset type and offset time. Enter the date in DD-MON-YYYY format.

Creating and Editing Batches

Batches Overview

Batches in OPM are the primary documents in the Production Management module. They record information about scheduled, in process, and completed manufacturing events.

Creating Batches or FPOs

A batch can be created in one of three ways:

- Converted from an MRP planned order (see the *Oracle Process Manufacturing MRP/MPS User's Guide*)

- Converted from a firm planned order (FPO) (see the section on Firm Planned Orders)

- Entered directly from the Create Batch/Firm Planned Order dialog box.

This section discusses how to enter a batch directly, and how to edit a batch, regardless of how it was created.

You create a batch on the Create Batch/Firm Planned Order dialog box. (See the Create Batch FPO section further on in this guide.) You access this dialog box from the Production menu. OPM also automatically displays it from the Batches form (and, optionally, from the Batch Input and Batch Output forms) if you are creating a new batch. On this dialog box, you specify either the item and quantity of the item the batch will produce, or the formula and version upon which the batch will be based. You also enter the planned start and end dates of the batch. In addition, you can enter a routing and routing version, if you wish.

Note: The Create Batch/Firm Planned Order dialog box displays automatically from the Batch Input and Batch Output forms if the PM$ALLOW_CREATE_INPUT and PM$ALLOW_CREATE_OUTPUT System Profiles are set to "1."

After you complete the dialog box and select OK, the View Effectivities form is displayed, showing all of the effectivities which are valid for the data you entered on the dialog box. Select the one on which the batch will be based. If only one effectivity is valid, the View Effectivities form is skipped and that sole effectivity is used. See the View Effectivities section for more information on the View Effectivities form.

If you accessed the Create Batch/Firm Planned Order dialog box from the Production Management menu, the batch or FPO is saved and you remain on the dialog box to enter additional batches. If you accessed the Create Batch/Firm Planned Order dialog box through the Firmed Planned Order, Batches, Batch Input, or Batch Output form, you are returned to the form from which you accessed the dialog box, with the newly created batch or FPO displayed. You can edit the batch or FPO before saving it.

Editing a Batch

You can change the products and product quantities on the Batches form. Note that when a batch produces more than one product, these are sometimes referred to as coproducts. In OPM, products and coproducts are synonymous. You may want to create an effectivity record in the Formula Management module for each coproduct. This enables you to enter any of the coproducts on the Create Batch/Firm Planned Order dialog box. Coproducts should not be confused with byproducts, which are described below.

Editing Batch Ingredients

You can add or delete ingredients and change ingredient quantities on the Batch Ingredients form. Access this by clicking the Ingredients button on any of the other batch forms.

Editing Batch Byproducts

If your batch produces byproducts, you can add or delete these byproducts and change byproduct quantities on the Batch By-products form. Access this by clicking the Byproducts button. Byproducts, like products, are items produced by a batch. They differ from products in that you do not plan your production to make byproducts. Byproducts may or may not have value, but generally have less value than products.

For example, in the production of applesauce you produce apple peels. These peels are not something you plan to produce. You would never schedule a batch in order to produce apple peels. These apple peels may not have any value and may be disposed of, or you may find someone who will buy these peels (as animal feed, for example). In either case, you would enter apple peels as a byproduct of your applesauce batch.

You cannot calculate the cost of production of byproducts in OPM. Any items produced by your batches for which you want to calculate costs should be entered as products, not byproducts. Byproducts can have an effect on the cost of products, however. For example, the cost of disposing of byproducts may increase the cost of producing your products. Alternatively, the money you make from selling the byproducts may lower the cost of producing your products.

From each of the three forms described previously on which you enter items (ingredients, products, and byproducts) in a batch, you can access an Additional Edit form by selecting Additional Edit from the Special menu. On this form you can enter additional information, such as scale types and release types, for any of the lines in the batch.

In addition to the forms mentioned above, you can access forms to enter quality control data for items in the batch (specifications, samples, results), to scale the batch, to calculate theoretical yield, to allocate ingredients, and to allocate products. For information on entering quality control data, see the *Oracle Process Manufacturing Quality Management User's Guide* and the online help.

Batch Text

Like many other documents in OPM, you can add text to a batch by selecting Edit Text from the Special menu. You can do this at the header or line level. In addition, text associated with the formula on which the batch is based is copied to the batch if the PM_COPY_FM_TEXT System Profile is set to '1'.

Note that identical paragraph codes must be set up on the Paragraph form in the OPM System Administration module for the fm_form_mst and pm_btch_hdr tables for header text to be copied, and for the fm_matl_dtl and pm_matl_dtl tables for line item (product, ingredient, or byproduct) text to be copied.

Note: See the *Oracle Process Manufacturing Implementation Guide* for more information on setting up paragraph codes.

Shared Data Area

The Batches, Batch Ingredients, and Batch By-products forms, as well as the Batch Input and Batch Output make use of a "shared data area." From each of these forms, you can access any of the other forms. If you are working with a specific batch on any one of these forms and you access any of the other forms, the same batch will display on the other form.

For example, if you are editing ingredients for a specific batch on the Batch Ingredients form and you access the Batch Input form by selecting Input from the Special menu, the same batch will display on the Batch Input form. This reduces the number of keystrokes required, since you do not have to enter the batch number on each form. It also allows you to perform various functions at one time, such as adding or editing ingredients and then allocating those ingredients, without having to add

or edit the ingredients, then save the batch, then reopen the batch, and then allocate.

Security Considerations

The Production Management batch forms are designed to enable you to make certain functions available to only certain people. For example, a production planner or supervisor may have authority to create batches, cancel batches, reschedule batches, scale batches, and change items and planned item quantities. You would give this person access to all of the forms and functions in Production Management.

A line operator, on the other hand, may only have authorization to record what went into a batch and what came out. You would not want this person to be able to create new batches, or change the production plan.

Therefore, you can give this person access to the Batch Input and Batch Output forms, but not to the Batches, Batch Ingredients, Batch Byproducts, or Create Batch/FPO forms. You would also set the PM$ALLOW_CREATE_INPUT and PM$ALLOW_CREATE_OUTPUT System Profiles to "0" to prevent access to the Create Batch/Firm Planned Order dialog box from the Batch Input and Batch Output forms.

By removing access to the Scale Batch and Theoretical Yield functions on the Batch Input and Batch Output forms, you prevent this operator from changing planned quantities, since the Planned Qty fields on these forms are not directly editable.

Creating a Batch or FPO - Procedure

1. Navigate to the Create Batch/Firm Planned Order dialog box.

2. In the **Document Type** field select to create either to create either a Batch or Firmed Planned order.

- If you are using manual document numbering, you must enter the new number in the **Document Number** field. This field is only accessible if your system uses manual document numbering for batches or FPOs. If the field is accessible, entry is required.

- If you are using automatic document numbering proceed to the next field. The word "New" continues to be displayed. When you save the FPO or batch, a number will be assigned and displayed in this field.

3. Complete the remaining fields as described in the *Create Batch/Firm Planned Order Dialog Box - Fields* topic.

4. Click **OK**.

- If more than one effectivity record qualifies, the **View Effectivities** form displays all of the effectivities which are valid for the data you entered on the dialog box. Select one.

- If only one effectivity record qualifies, the **View Effectivities** form is skipped and the batch is created directly based on that sole effectivity. One of the following occurs:

  - If you accessed **the Create Batch/Firm Planned Order** dialog box from the Production menu, the batch or FPO is created and saved. This is useful if you are entering many batches or FPOs at a time and do not need to edit them before they are saved.

  - If you accessed the **Create Batch/Firm Planned Order** dialog box from the Firm Planned Order, Batches, Batch Input, or Batch Output form, you are returned to the form from which you accessed the dialog box. You can then edit the batch before saving it, including performing theoretical yield calculations and direct certification.

5. Continue to create batches or edit the batch as necessary.

Create Batch/Firm Planned Order Dialog Box - Fields

Document Type

You may select to create a Batch or a Firm Planned Order from the list.

Plant

This field displays the code for the plant in which the batch will be produced. It defaults to the code for your default organization and cannot be edited. To change your default organization, you must use either the Session Parameters form or the change the profile for default organization.

Document Number

If you are using manual document numbering, enter the new number. This field is only accessible if your system uses manual document numbering for batches or FPOs. If the field is accessible, entry is required.

If you are using automatic document numbering proceed to the next field. The word "New" continues to be displayed. When you save, a number will be assigned and displayed in this field.

WIP Warehouse

Enter the code for the warehouse used to cost production activity. If you leave this field blank, the WIP warehouse will default to the replenishment warehouse for the product set up on the Plant Warehouses form.

Item

This is an "optional" field which provides a way of selecting an effective formula for the batch. Enter the item code of the product this batch will produce. If you do not enter an item code in this field, you must enter a formula and version in the Formula and Version fields.

When you finish completing the dialog box and select OK, the View Effectivities form will display all formulas which are effective for producing the specified quantity of the item during the specified dates.

Effective Quantity

This field is only accessible if you entered an item code in the Item field. Enter the quantity of the product you are planning to make in the batch. This field defaults to the standard quantity set up on the Production Rules form but can be edited. Required if you entered an item in the Item field.

Unit of Measure

Enter the unit of measure in which the effective quantity is expressed. This defaults to the item's primary inventory unit of measure.

Formula

Enter the formula on which the batch will be based. Required if you did not enter an item in the Item field.

Version

Enter the number of the formula version on which the batch will be based. Required if you did not enter an item in the Item field.

Routing

Enter the code for the routing to be used for the batch.

Version

Enter the number of the routing version to be used for the batch.

Planned Start

Enter the planned production start date and time for the batch. The default is the current date and time.

OPM can calculate the planned start date and time if you enter the planned completion date in the next field. See the next field description for more detail.

Planned Completion

Enter the planned completion date and time for the batch. The default for this field is calculated from the fixed and variable leadtimes on the Production Rules form. This is calculated by adding the following to the planned start date:

Fixed Leadtime + (Variable Leadtime * (Batch Quantity / Standard Quantity))

Note that the leadtimes on the Production Rules form are expressed in hours.

If you left the Planned Start field blank and enter a date and time in this field, OPM will use the above formula to back-calculate the planned start date and time.

Required Completion

Enter the required completion date and time for the batch. This field is for informational purposes only and defaults to the planned completion date.

Editing Batch Header and Products Information

Use the Batches form to enter header and product information for a batch. The product information shown defaults from the formula on which the batch is based.

Note: This form has descriptive flexfields and attachments capabilities. For more information on flexfields and attachments, refer to the *Oracle Applications User's Guide*.

Entering Batch Header and Products Information - Procedure

1. Navigate to the **Batches** form.
2. Complete the fields as described in the *Batches Form - Fields* topic.
3. Save the form.

Batches Form - Fields

The sections that follow describe the fields that are displayed in the various panels on the Batches form.

Header Panel

Batch

To edit an existing batch, enter the batch number using Query Find or Query Find All.

To enter a new batch, proceed accordingly:

- If you are using automatic document numbering for batches, press the Tab key. The Create Batch /Firm Planned Order dialog box is displayed.

- If you are using manual document numbering for batches, enter the new batch number. The Create Batch /Firm Planned Order dialog box is displayed.

Note that the batch number is preceded by your default organization code. The combination of this code and the batch number uniquely identify a batch.

Next to this field, the current status of the batch is displayed. You cannot edit this field.

Formula

This field displays the name of the formula on which the batch is based. You cannot edit this field.

Next to the Formula field, the number of the formula version upon which the batch is based is displayed. You cannot edit this field.

Routing

The routing for the batch is displayed. You cannot edit this field directly. To change the routing, select Reroute from the Special menu.

Next to the Routing field, the number of the routing version for the batch is displayed. You cannot edit this field directly. To change the routing version, select Reroute from the Special menu.

WIP Warehouse

Enter the code for the warehouse used to cost production activity. This defaults to the WIP warehouse entered on the Create Batch/Firm Planned Order dialog box. If you did not enter a WIP warehouse on the Create Batch/Firm Planned Order dialog box, this field defaults to the replenishment warehouse for the product set up on the Plant Warehouses form. The description associated to the warehouse code is displayed.

Planned Dates Panel

Start

The date and time you plan the batch to start defaults from the Create Batch/Firm Planned Order dialog box. To change this, you must select Reschedule from the Special menu.

Completion

The date and time you plan the batch to be completed defaults from the Create Batch /Firm Planned Order dialog box. To change this, you must select Reschedule from the Special menu.

Required Completion

Enter the date and time by which the batch must be completed. This field is for informational purposes only, and defaults from the Create Batch/Firm Planned Order dialog box. Required.

Actual Dates Panel

Start

Enter the date and time the batch was actually started. If you do not enter a date in this field, the current system date and time is entered when you release the batch.

Completion

Enter the date and time the batch was actually completed. If you do not enter a date in this field, the current system date and time is entered when you certify the batch.

Close

Enter the date and time the batch was closed. If you do not make an entry, the current system date and time is used when you close the batch.

Products Panel

Seq

This field displays the line number for each product line. This field cannot be edited.

Item

The code of the product from the formula is displayed. You can add or delete products as necessary.

Description

The description of the product is displayed. You cannot edit this field.

Planned Qty

If you entered an item code and effective quantity on the Create Batch/Firm Planned Order dialog box, the planned quantity for that item (but not the other products) will default from that quantity. If you entered a formula and version on the Create Batch/Firm Planned Order dialog box, the planned quantity will be the standard quantity defined on the Production Rules for the first product, or the quantity from the formula if there is no Production Rule. You can change this quantity on a New or Pending batch. Required.

Actual Qty

Enter the quantity actually produced by the batch.

For automatic certification lines (those with the Release Type set to automatic on the Additional Edit dialog box), if you have not entered a quantity in this field, the greater of allocated quantity versus the planning quantity defaults into this field when you certify the batch. You cannot directly edit this field until you certify the batch. You cannot edit this field on a WIP batch and save the batch. You can, however, edit this field on a WIP batch and then certify the batch.

For lines with the Release Type set to manual, the quantity you certify on the Batch Output form or Partial Certification dialog box defaults into this field.

For lines with the Release Type set to incremental, the quantity calculated by partial certification backflushing displays in this field.

UOM

Enter the unit of measure in which the quantities are expressed.

If you enter a unit of measure that is of a different UOM type than the item's inventory unit of measure, you must first have set up a unit of measure conversion between these two units of measure. Conversions between unit of measure types must be defined for each item on the Item Lot/Sublot Std Conversion form

Allocated

This checkbox indicates whether the line is allocated. Cannot be edited.

Batches Form - Buttons

Byproducts

Accesses the Batch By-products form. This form is described in detail later in this section.

Ingredients

Accesses the Batch Ingredients form. This form is described in detail later in this section.

Finding Batches

There are several options for locating a record and populating a form. The List of Values option displays a dialog box with the appropriate records. The Query Find option displays a separate block called the Find form, where you enter your search criteria.

Finding Batches - Procedure

Take the following steps:

1. Choose **Find** from the **Query** menu.
2. Complete one or any combination of fields as described in the *Find Batches - Fields* topic.
3. Click **Find**.

Find Batches - Fields

Status

Select the current status of the batch (Canceled, Pending, WIP, Certified, Closed) from the list.

Batch

Enter the batch number.

Formula

Enter the formula code on which the batch is based.

Version

Enter the version number of the formula.

Routing

Enter the routing ID number.

Version

Enter the routing version number.

WIP Warehouse

Enter the ID code for the WIP warehouse for the batch.

Planned Start

Enter the planned start date.

Planned Completion

Enter the planned completion date.

Required Completion

Enter the required completion date.

Actual Start

Enter the actual start date of the batch.

Actual Completion

Enter the actual completion date of the batch.

Batch Close

Enter the batch close date.

Batches Form - Special Menu

The following options appear on the Special menu depending on whether you have the cursor in the header panel or the Products panel.

Batch Steps

Accesses the Batch Steps form. See the *Oracle Processing Manufacturing Process Operations Control User's Guide* for more information on the Batch Steps form. POC must be turned on for this option to be available.

Input

Accesses the Batch Input form, on which you can allocate ingredient lines.

Output

Accesses the Batch Output form, on which you can allocate product and byproduct lines.

Edit Parent

If you are editing a phantom batch, this retrieves the parent batch.

Scale Batch

Accesses the Scale Batch dialog box, which allows you to scale the quantities of the ingredients, products, and byproducts in the batch. You must have the cursor in the Products panel for this option to display on the Special menu.

Release

Releases the batch and changes the batch status to WIP. This writes completed transactions for all of the ingredient lines which are flagged for automatic release on the Additional Edit dialog box. You must have the cursor in the header or the dates panels for this option to display on the Special menu.

Certify

Certifies the batch and changes the batch status to Certified. This writes completed transactions for all of the product lines which are flagged for automatic release on the Additional Edit dialog box. You must have the cursor in the header or the dates panels for this option to display on the Special menu.

Close

Closes the batch. Once a batch has been closed, you can no longer edit any of the batch data. You must have the cursor in the header or the dates panels for this option to display on the Special menu.

Cancel

Cancels the batch. A batch can only be canceled if it has a Pending status. Canceling a batch deletes the pending transactions associated with the batch. You must have the cursor in the header or the dates panels for this option to display on the Special menu.

Unrelease

Reverses a release and changes the batch status to Pending. This reverses the completed ingredient transactions and writes pending ingredient transactions. Also reverses completed transactions for manual release products and creates pending transactions. Note that both automatic release lines and manual release lines are unreleased by this action. You must have the cursor in the header or the dates panels for this option to display on the Special menu.

Reschedule

Accesses the Reschedule Batch dialog box, on which you can change the planned start and completion dates of the batch. You must have the cursor in the header or the dates panels for this option to display on the Special menu.

Reroute

Accesses the View Effectivities form, on which you can select a different routing. You must have the cursor in the header or the dates panels for this option to display on the Special menu.

Inventory Summary

If the cursor is on a product line, this option accesses the Inventory Summary form. This form lists available and committed quantities for an item by warehouse and QC grade. You must have the cursor in the Products panel for this option to display on the Special menu. See the *Oracle Process Manufacturing Inventory Management User's Guide* for more information on this form.

Results

If the cursor is on a product line, this option accesses the Production Results form. You must have the cursor in the Products panel for this option to display on the Special menu. See the *Oracle Process Manufacturing Quality Management User's Guide* for more information on results.

Samples

If the cursor is on a product line, this option accesses the Production Samples form. You must have the cursor in the Products panel for this option to display on the Special menu. See the *Oracle Process Manufacturing Quality Management User's Guide* for more information on samples.

Specifications

If the cursor is on a product line, this option accesses the Production Specifications form. See the *Oracle Process Manufacturing Quality Management User's Guide* for more information on specifications.

Theoretical Yield

If the cursor is on a product line, this option accesses the Calculate Theoretical Yield dialog box, which allows calculation of the product quantities based on the ingredient quantities and a yield factor. You must have the cursor in the Products panel for this option to display on the Special menu.

Additional Edit

If the cursor is on a product line, this menu choice accesses the Additional Edit dialog box, which allows you to enter additional information, such as scale type and release type, for each product line. This is described in detail later in this section. You must have the cursor in the Products panel for this option to display on the Special menu.

Entering and Editing Batch Ingredients

Use the Batch Ingredients form to enter or edit ingredients and ingredient quantities for a batch. The ingredients from the formula on which the batch is based default onto this form.

The number of products, byproducts, and ingredients in the formula are displayed at the bottom of the form. These fields cannot be edited.

1. Navigate to the **Batch Ingredients** form by clicking **Ingredients** on the **Batches**, **Batch Input** or **Batch Output** forms.

2. Complete the fields as described in the *Batch Ingredients Form - Fields* topic.

3. Save the form.

Batch Ingredients Form - Fields

Batch

The batch number and its associated organization is displayed. This field cannot be edited.

(Unlabeled)

The status of the batch is displayed. This field cannot be edited.

Product1

The item code and description of the first product made by this batch is displayed. This field cannot be edited.

Seq

This field displays the line number for each ingredient line. This field cannot be edited.

Item

Displays the item codes of the ingredients in this batch. The ingredients from the formula on which the batch is based default.

Description

The item description of the ingredients displays from the item master table. This field cannot be edited.

Plan Quantity

The ingredient quantity defaults from the formula. If the batch is still pending, you can change this quantity if you plan to consume more or less in this batch. Required.

Actual Qty

Enter the quantity actually consumed by the batch. You cannot edit this field directly until the batch has been released (WIP status)

For automatic release lines (those with the Release Type on the Additional Edit dialog box set to automatic), when you release the batch, the quantity of the pending transaction(s) that had been associated with this line defaults into this field. For manual release lines (those with the Release Type set to manual), the quantity you release using the Batch Input form defaults into this field. For lines with the release type set to Incremental, partial certification with backflushing updates this quantity.

UOM

Enter the unit of measure in which the quantities are expressed. This defaults from the formula. If you add a new ingredient, the item's primary inventory unit of measure defaults.

If you enter a unit of measure that is of a different UOM type than the item's inventory unit of measure, you must first have set up a unit of measure conversion between these two units of measure. Conversions between unit of measure types must be defined for each item on the Item Lot/Sublot Std Conversion form.

Allocated

This checkbox indicates whether the line is allocated. Cannot be edited.

Batch Ingredients Form - Buttons

Byproducts

Accesses the Batch By-products form. This form is described in detail later in this section.

Products

Accesses the Batches form.

Batch Ingredients Form - Special Menu

Edit Phantom

If the cursor is on a phantom ingredient, this retrieves the phantom batch.

Input

Accesses the Batch Input form, on which you can allocate ingredient lines.

Output

Accesses the Batch Output form, on which you can allocate product and byproduct lines.

Edit Parent

Accesses the parent batch and allows you to edit it if you are editing a phantom batch.

Inventory Summary

Accesses the Inventory Summary form. This form lists available and committed quantities for an item by warehouse and QC grade. See the *Oracle Process Manufacturing Inventory Management User's Guide* for more information on this form.

Results

Accesses the Production Results form. See the *Oracle Process Manufacturing Quality Management User's Guide* for more information on results.

Samples

Accesses the Production Samples form. See *Oracle Process Manufacturing Quality Management User's Guide* for more information on samples.

Specifications

Accesses the Production Specifications form. See *Oracle Process Manufacturing Quality Management User's Guide* for more information on specifications.

Scale Batch

Accesses the Scale Batch dialog box, which allows you to scale the quantities of the ingredients, products, and byproducts in the batch.

Allocate

Allocates all ingredient lines which belong to an allocation class flagged for auto-allocation (automatic or user-initiated).

Create Phantom

If the cursor is on an unexploded phantom, this option accesses the Create FPO/ dialog box on which you can create the phantom batch.

Additional Edit

Accesses the Additional Edit dialog box, which allows you to enter additional information, such as scale type and release type, for each ingredient line. This is described in detail later in this section.

Inventory Shortage

Checks whether there are inventory shortages of any ingredients in the batch. If there are, the shortages are displayed on the Inventory Shortages form.

Allocate Line

Allocates the ingredient line on which the cursor is positioned, if that ingredient belongs to an allocation class flagged for auto-allocation (automatic or user-initiated).

Entering and Editing Batch Byproducts

Use the Batch By-products form to enter byproducts and byproduct quantities for a batch. The byproducts from the formula on which the batch is based defaults. Byproducts are items produced by a formula, but differ from products in that you do not plan your production to make byproducts, and you cannot cost byproducts.

The number of products, byproducts, and ingredients in the formula are displayed at the bottom of the form. These fields cannot be edited.

Entering and Editing Batch Byproducts - Procedure

1. Navigate to the **Batch By-products** form.
2. Complete the fields as described in *the Batch By-products form - Fields* topic.
3. Save the form.

Batch By-products Form - Fields

The sections that follow describe the fields in the various panels on the Batch By-products form.

Header Panel

Batch

The batch number and its associated plant organization are displayed. This field cannot be edited.

(Unlabeled)

The status of the batch is displayed. This field cannot be edited.

Product1

The first product made by this batch is displayed. This field cannot be edited.

Byproducts Panel

Seq

The line number for each byproduct line is displayed. This field cannot be edited.

Item

The code of the byproduct(s) from the formula is displayed. You can add or delete byproducts if necessary.

Description

The item description of the byproduct displays from the item master table.

Planned Qty

The byproduct quantity defaults from the formula. You can change this quantity if you plan to produce more or less in this batch. Required.

Actual Qty

Enter the quantity actually produced by the batch.

For automatic certification lines (those with the Release Type on the Additional Edit dialog box set to automatic), if you have not entered a quantity in this field, the allocated quantity defaults into this field when you certify the batch.

For automatically certified lines, you cannot directly edit this field until you certify the batch. If you edit this field on a WIP batch and try to save it, an error message is displayed. You can, however, edit this field on a WIP batch and then certify the batch

For manual lines with the Release Type set to manual, the quantity you certify on the Batch Output form or Partial Certification dialog box defaults into this field.

For lines with release type set to Incremental, the quantity calculated by partial certification backflushing displays in this field.

UOM

Enter the unit of measure in which the quantities are expressed. This defaults from the formula. If you add a new byproduct, the item's primary inventory unit of measure defaults.

If you enter a unit of measure that is of a different UOM type than the item's inventory unit of measure, you must first have set up a unit of measure conversion between these two units of measure. Conversions between unit of measure types must be defined for each item on the Item Lot/Sublot Std Conversion form.

Allocated

This checkbox indicates whether the line is allocated. Cannot be edited.

Batch By-products form - Buttons

Ingredients

Accesses the Batch Ingredients form.

Products

Accesses to the Batches form.

Batch By-products Form - Special Menu

Batch Steps

Accesses the Batch Steps form. See the *Oracle Processing Manufacturing Process Operations Control User's Guide* for more information on the Batch Steps form. The batch must have POC turned on for this option to work.

Input

Accesses the Batch Input form, on which you can allocate ingredient lines.

Output

Accesses the Batch Output form, on which you can allocate product and byproduct lines.

Inventory Summary

Accesses the Inventory Summary form. This form lists available and committed quantities of an item by warehouse and QC grade. See the *Oracle Process Manufacturing Inventory Management User's Guide* for more information on this form.

Results

Accesses the Production Results form. See the *Oracle Process Manufacturing Quality Management User's Guide* for more information on results.

Samples

Accesses the Production Samples form. See *Oracle Process Manufacturing Quality Management User's Guide* for more information on samples.

Specifications

Accesses the Production Specifications form. See *Oracle Process Manufacturing Quality Management User's Guide* for more information on specifications.

Theoretical Yield

Accesses the Calculate Theoretical Yield dialog box, which allows calculation of the product quantities based on the ingredient quantities and a yield factor.

Additional Edit

Accesses the Additional Edit dialog box, which allows you to enter additional information, such as scale type and release type, for each byproduct line. This is described in detail later in this section.

Scale Batch

Accesses the Scale Batch dialog box, which allows you to scale the quantities of the ingredients, products, and byproducts in the batch.

Adding Additional Attributes to a Batch Line

You can add additional attributes for any line in a batch (product, ingredient, or byproduct) by placing the cursor on that line and selecting Additional Edit from the Special menu. Any settings which were set on the corresponding line on the Additional Information dialog box in the formula on which the batch is based will default onto this form. You can also access this form from FPOs, but you cannot edit any of the fields. To select a product you must be on the Batches, Batch Output, or Firm Planned Order form, to select an ingredient you must be on the Batch Ingredients, Batch Input, or FPO Ingredients form, and to select a byproduct you must be on the Batch Byproducts, Batch Output, or FPO Byproducts form.

Note: Depending on the form from which you access this dialog box, some of fields described below will display.

Additional Edit Dialog Box - Fields

Note: The values of all these fields default to the value set for the line in the formula on which the batch is based.

Seq

The batch line number is displayed. This field cannot be edited.

Item

The code of the item on the line you selected displays from the previous form. This field cannot be edited.

Description

The description of the item on the line you selected displays. This field cannot be edited.

Planned Quantity

The planned quantity of the item on the line you selected displays from the previous form. This field cannot be edited.

Scrap Factor

Scrap factor represents the anticipated amount of ingredient loss during manufacturing. Enter the scrap factor for this line item, expressed as a percentage (ex. 5% is entered as 5). Only displays for ingredient lines. You may enter scrap factor or required quantity, but not both.

Required Quantity

This field only appears on the Ingredient Additional Edit dialog box. Enter the ingredient quantity required for manufacturing. The value entered should represent the amount of an ingredient needed to manufacture a given product. This includes the scrap, the amount of anticipated ingredient loss during manufacturing.

This field works in conjunction with the Scrap Factor field. When the required quantity is entered, the scrap factor value will be automatically calculated using the following algorithm:

$$scrap\_factor\% = (required\_quantity/planned\_quantity)-1$$

You may enter required quantity or scrap factor, but not both

Scale Batch

Click this box to allow scaling. Inserted lines default to scaleable.

Release Type

Select the release type of this line.

- Automatic
- Manual
- Incremental

Automatic, when set for an ingredient line, means that the ingredient line will be released for production when the batch is released. Manual, when set for an ingredient line, means that the ingredient line must be released individually. Incremental, when set for an ingredient, means that the line will be released incrementally based on entries made using the Partial Certification option (see the Partial Certification and Backflushing section).

For example, if you have an ingredient that is used a little at a time, you can set it to manual release and release just the amount that has been used at a certain time, using the Batch Input form. If some ingredients go into a batch later than others, you can release those later.

When used on product lines, manual allows you to do partial certification of a batch using the Batch Output form or Partial Certification dialog box. This is useful for long batches or continuous processing, in which you want to record the fact that a certain amount of the product was yielded without having to wait until the entire batch is complete.

For inserted lines, the value of this field defaults based on the FM$DEFAULT_RELEASE_TYPE profile.

Phantom Type

This field only appears on the Ingredient Additional Information dialog box. Designate the phantom type you want to use. Select one of three options:

- Not a phantom
- Auto Generate
- Manually Generated

When you select Auto Generate, the system will create a dependent phantom batch when you first save the parent batch.

When you select Manually Generated Phantom Batches, you will have to explode the phantom ingredient by selecting Special > Create Phantom on the Batch Ingredients form.

See the section on phantoms for more information on phantoms.

Cost Allocation

This field only displays when you access the Additional Edit dialog box from a product line on the Batches, Batch Output or Firm Planned Order form. Use this field to allocate costs among products if the batch produces more than one product.

Enter the fraction of the cost to be assigned to the product as a decimal. If the batch produces only one product, enter 1.00. If the batch produces more than one product, these must sum to 1.00.

Checking Inventory Shortages

The Inventory Shortage dialog box can be displayed by selecting Inventory Shortage from the Special menu on the Batch Ingredients form. It displays any ingredients for which the planned quantity for the batch is greater than the available quantity.

This form will also display automatically if there are shortages of any ingredients when you save or release the batch. There are two System Profiles, PM$CHECK_INV_SAVE and PM$CHECK_INV_RELEASE, which determine whether OPM automatically performs inventory shortage checking upon saving or releasing a batch. If you generally do not have your ingredients in stock at the time you enter a batch (for example, if you use just-in-time manufacturing), you should turn off inventory shortage checking at save.

This form serves only as a warning. To continue with the save or release, click the OK button.

Inventory Shortage Dialog Box - Fields

The sections that follow describe the fields on the Inventory Shortage dialog box.

Header Panel

Line

The ingredient line number for which there is insufficient inventory is displayed from the Ingredients form.

Item

The code for the ingredient for which there is insufficient inventory is displayed.

Description

The description of the ingredient is displayed.

Quantity Panel

Planned

The planned quantity from the batch is displayed.

On Hand

The current onhand quantity of the ingredient is displayed.

Available

The current available quantity of the ingredient is displayed. This is equal to the onhand quantity minus all other commitments. Ingredients for which the planned quantity is greater than this available quantity are displayed on this form.

The unit of measure in which the quantities are expressed is displayed in the unlabeled field to the right.

Rescheduling Batches

Use the Reschedule dialog box to reschedule a batch. You can change the planned start date and time on a batch that has a status of New or Pending, and the planned completion date and time of a batch that has a status of New, Pending, or WIP.

Changing the planned start date and time changes the date and time on the pending ingredient transactions. Changing the planned completion date and time changes the date and time on the pending product and byproduct transactions.

If you change one field, OPM will ask if you want to apply the change to the other field. If you answer Yes, OPM calculates the difference between the original date and time and the new date and time, and applies that to the other field. For example, if you push the planned start date three days ahead, OPM will also push the planned completion date three days ahead.

Rescheduling Batches - Procedure

1. Navigate to the **Reschedule Batch** dialog box.
2. Complete the fields as described in *the Reschedule Batch Dialog Box - Fields* topic.
3. Click **OK**.

Reschedule Batch Dialog Box - Fields

Planned Start

Enter the new planned start date for the batch. You can only edit this field if the batch has a status of New or Pending.

Planned Complete

Enter the new planned completion date for the batch.

Phantom Batches

Phantoms are intermediate items in a formula that do not exist by themselves, and generally are not tracked in inventory, but their ingredients are. A phantom is made only during the production of another product and may also be known as a transient subassembly or a blowthrough.

Phantom batches are linked to parent batches of which they are an ingredient or intermediate. They are sometimes also referred to as child batches.

Example

For example, if you manufacture breads, you use a basic bread dough (BASIC_DOUGH) for all of the breads you sell. You don't sell the dough or manufacture it separately and keep it in inventory; you track only the ingredients; flour, water, yeast, etc. Your formulas for bread contain the phantom, BASIC_DOUGH, plus whatever other ingredients are needed to produce the type of breads you sell -- apple blend for apple bread, carrot blend for carrot bread, etc.

Creating and Generating Phantoms

In OPM, phantom functionality is a fixed form of multi-batch management. Once several batches are linked by a production order number and the phantom type dependency, you can manage them as a single production event. There are three basic tasks associated with using phantoms. They are:

1. Identify one or more ingredients in a formula as phantoms

2. Build a formula for each phantom and create effectivities

Note: These first two tasks are performed in the Formula Management module. After you create a formula for the phantom, you use the Formula Ingredients form's Additional Information dialog box to select a Phantom Type. At the Phantom Type field, you select one of the following: Not a Phantom, Auto Generate Manually Generated. For more information, see the *Oracle Process Manufacturing Formula Management User's Guide*.

3. Create an FPO or Production Batch from the formula with phantom ingredients

Auto-Generate Phantom Batches

When you use the Auto-Generate Phantom Batches function with automatic document numbering (see the *Oracle Process Manufacturing Implementation Guide* for information on document numbering), the system automatically creates a phantom batch when you first save the parent batch.

Manually Generated Phantom Batches

When you use the Manually Generated Phantom Batches function, you will have to select Special > Create Phantom to explode (create) a phantom batch.

Note: When using manual document numbering as set up in the System Administration guide, the system can not create auto-generated phantom Batches. For information on setting up documents and document numbering, refer to the *Oracle Process Manufacturing Implementation Guide*.

Phantom batches are dependent on the parent production batch and are sometimes referred to as the child or dependent batch. This dependency eliminates several steps in batch processing. OPM synchronizes the output quantity of the phantom batch to the input of the parent batch. If any of the following functions are applied to the parent batch, they will also automatically be applied to all associated phantom batches. The functions are:

- Create Batch (Generates the dependent phantom batch for Auto-generated phantoms)

- Cancel (Cancels phantom batch)

- Release

- Unrelease

- Certify

- Close

- Reschedule (Applies date change to phantom batches)

- Scale Batch (This may or may not scale ingredients in the phantom batch, depending on whether or not you answer yes to the message "Backflush qty to phantom batches (Y/N)?")

The following two menu items from the Special menu can be used to modify phantom data.

- Edit Phantom (The phantom batch is displayed)

- Edit Parent (The parent batch is displayed)

Phantom Batches and Partial Certification with Backflushing

If a phantom ingredient has a release type of Incremental in the parent batch, it will be updated by partial certification, and the rest will be handled the same as if you had manually changed the qty. That is, you will be asked "Backflush quantity to phantom batches (Y/N)?" If you answer Yes, standard phantom backflushing (using the scaling algorithm, not the partial certification algorithm) will be done. If you answer No. the quantities of the ingredients in the phantom batches will not be changed.

Recording Batch Input and Output

Batch Input and Output Overview

This section describes how to record the materials that went into a batch, and the materials that came out of a batch. Recording the input to a batch involves allocating ingredients and releasing the batch. Recording the output of a batch involves allocating products and certifying the batch.

Batch Input overview

This section discusses the following:

- Allocating Ingredients
- Releasing a Batch

Batch Input - Allocating Ingredients

Allocating ingredients refers to specifying the lots and locations of ingredients used for a batch. Allocation can be performed automatically by OPM or manually.

If you use auto-allocation, OPM will select the lot(s) to be used (for lot-controlled ingredients), the sublot(s) to be used (for sublot-controlled ingredients), and the location(s) from which to take the ingredient (for location-controlled ingredients). If you use manual allocation, you allocate ingredients on the Batch Input form.

You can manually allocate before or after releasing a batch. You can only auto-allocate *before* releasing a batch. An advantage to allocating (either automatically or manually) before releasing a batch is that the selected lots and locations will print on the Batch Picklist. This provides a guide to picking the correct material. If you record what went into a batch after it has started, instead of what will go into it before it starts, then you must manually allocate after releasing the batch.

Automatic Allocation

Using this method, OPM automatically allocates the ingredients in a batch when the batch is saved for the first time. OPM decides the lots, sublots, and/or locations from which to take the items. This is based on the allocation class you assign the items on the Items form, and the rules you set up on the Allocation Parameters form. This is the easiest type of allocation. You can use automatic auto-allocation when the following circumstances are true for the item:

- The ingredient is lot-controlled.

- The correct material can be chosen using FIFO/FEFO, single/multi-lot, and lot status rules.

- The ingredient is typically available at the time of batch entry in the consumption warehouse specified on the Plant Warehouses form.

To set an ingredient to be automatically auto-allocated, assign it an allocation class on the Items form. The allocation class must be linked to allocation parameters that specify automatic auto-allocation on the Allocation Parameters form. For more information on setting up allocation parameters, see the *Oracle Process Manufacturing Inventory Management User's Guide.*

User-initiated Auto-allocation

With user-initiated auto-allocation, OPM automatically allocates ingredients, but you must prompt OPM to perform the allocation; it is not performed automatically when the batch is first saved. You prompt OPM to perform the allocation of individual ingredient lines by selecting the line on either the Batch Ingredients or Batch Input form and selecting Allocate Line from the Special menu. You can prompt allocation of all ingredients set to auto-allocate by selecting Allocate Batch from the Special menu on the Batch Ingredients and Batch Input forms. You can use user-initiated auto-allocation when the following circumstances are true for the item:

- The ingredient is lot-controlled.

- The correct material can be chosen using FIFO/FEFO, single/multi-lot, and lot status rules.

- The ingredient is typically available at the time of allocation in the consumption warehouse specified on the Plant Warehouses form, although not necessarily at the time of batch entry.

To set an ingredient for user-initiated auto-allocation, assign it an allocation class on the Items form. The allocation class must be linked to allocation parameters that specify user-initiated auto-allocation on the Allocation Parameters form.

Manual Allocation of Ingredients using the Batch Input Form

You can allocate ingredients manually using the Batch Input form. You can also use this form to display or change allocations made by OPM using one of the automatic allocation methods.

This is the most flexible way of allocating inventory. You can use this method when the automatic methods are inappropriate, that is, when the correct material cannot be chosen using FIFO/FEFO, single/multi-lot, and lot status rules. You can also use the Batch Input form to take ingredients that are not lot or location controlled from a warehouse other than the consumption warehouse specified on the Plant Warehouses form.

Pick Lots/Location

You can also allocate material using the Pick Lots/Location option on the Batch Input Form's Special menu.

Pick lots is similar to manual allocation but it shows you what is available for allocation in the consumption warehouse. Note that Pick Lots shows the availability of an item *only* in the consumption warehouse shown on the Batch Input Form.

Note: The generic LOV on the Lot field lists all the lots whether or not they have inventory in them, and regardless of whether the inventory has been committed elsewhere.

Batch Input - Releasing

Releasing a batch indicates that production has begun and ingredients have been consumed. You release a batch by selecting Release from the Special menu on the Batches form.

Prior to releasing a batch, the transactions associated with the ingredient lines are called "pending" transactions. Pending transactions represent an expected or future change to inventory, as opposed to completed transactions which represent an actual change to inventory.

When you release a batch, the pending transactions associated with ingredient lines flagged for automatic release are deleted and replaced with completed transactions. (Ingredient lines are flagged for automatic release on the Additional Edit dialog box, accessible by selecting Additional Edit from the Special menu on the Batch Ingredients form.)

Manual or Partial Release

You may not want to release all of the ingredient lines simultaneously. For example, you may have some ingredients which are consumed after the others. You may want to manually release these separately. Alternatively, you may have a batch which runs for a long time and consumes the ingredient quantities a bit at a time. In this case, you would want to perform partial releases of the ingredients. When you want to release an ingredient separately from the others, or when you want to partially release an ingredient, the ingredient line must be flagged for manual or incremental release on the Additional Edit dialog box.

Unlike automatically released ingredients, manual release and incremental release ingredients are not released when you release the batch (that is, the pending transactions are not replaced with completed transactions). The Batch Input form is used to release those ingredients flagged for manual release. You do this by checking the Completed field in the Line Allocations dialog box. This replaces a pending transaction with a completed transaction. You can release the entire ingredient quantity, or you can release a bit at a time by adding a new transaction line and creating a completed transaction for the quantity you are releasing. This decreases the quantity on the pending transaction to indicate the quantity that has not yet been released.

You can only release ingredient lines manually on a batch with a status of WIP (that is, a batch which has been released but not certified).

The difference between manual release and incremental release is that when a partial certification is done, an incremental quantity is calculated for incremental release items, and this quantity is released (backflushed). For manual release ingredients, the release must be done manually; they are not affected by partial certification.

Viewing Unallocated Items

The Unallocated Items form displays under the following circumstances:

- When you initially save a batch that contains ingredients flagged for automatic auto-allocation, if OPM could not auto-allocate any of those items.

- When you select Allocate Batch from the Special menu on any of the batches forms, and the batch contains items flagged for automatic or user-initiated auto-allocation which OPM could not auto-allocate.

- When you use partial certification with backflushing, and the quantities partial certified or backflushed are not fully allocated.

- When you certify a batch, if you have not allocated any of the ingredients, products, or byproducts in the batch.

The Unallocated Items form displays the items that could not be or have not been allocated.

In the first two cases above, in which OPM could not auto-allocate one or more ingredients, you do not have to take any immediate action. You can try to initiate auto-allocation at a later time, manually allocate now, or manually allocate at a later time.

In the third case above, you must allocate the items before you can save the batch.

In the fourth case above, in which, during certification, the form displays items in the batch which have not been allocated, you must allocate those items before you can certify the batch.

All of the fields on this form are display-only and cannot be edited.

Unallocated Items Form - Fields

Line

The ingredient, product, or byproduct line number is displayed.

Type

This field indicates whether the line is an Ingredient, Product, or Byproduct.

Item

The code for the item which was not allocated is displayed.

Actual Quantity

This field indicates the total quantity that must be allocated. When this form displays during certification, this field indicates the actual quantity from the batch.

Allocated Quantity

The quantity which has been allocated is displayed.

Unallocated Quantity

The quantity which has not been allocated is displayed.

UOM

The unit of measure in which the quantities are expressed is displayed.

Batch Input Form

Use the Batch Input form to identify the material which has been or will be consumed by a batch. This is the form on which you allocate ingredient lots and locations for a batch.

You cannot add, delete, or change ingredients or planned quantities on this form. To change ingredients or planned ingredient quantities, you must use the Batch Ingredients form, accessed by clicking the Ingredients button.

Note: This form has descriptive flexfields. See the *Oracle Applications* user's guide for more information.

Batch Input Form - Procedure

1. Navigate to the **Batch Input** form.
2. Complete the fields as described in the *Batch Input Form - Fields* topic.
3. Save the form.

Batch Input Form - Fields

The sections that follow describe the fields on the Batch Input form.

Header Panel

Batch

Using a Query option, enter the number of the batch for which you want to record input. The batch number is preceded by your default organization code. The combination of organization code and batch number uniquely identify a batch.

Status

The current status of the batch is displayed. You cannot edit this field.

Step

Using Query Find, enter the batch step number you want to retrieve. This field only displays if you turn on POC for the current organization and is only accessible if the batch being edited has POC data associated with it.

Step Status

This field only displays if you entered a step in the Step field. It shows the status of the step (example: cert). Cannot be edited.

Formula

The code of the formula and the version number on which the batch was based is displayed. You cannot edit this field.

Routing

The routing and routing version used for the batch are displayed. You cannot edit this field.

Input Lines Panel

Seq

The ingredient line number is displayed.

Item

The item code for each ingredient is displayed. You cannot edit this field.

Description

The description of the ingredient is displayed. You cannot edit this field.

Planned Qty

The quantity of the ingredient which the batch was planned to consume is displayed. You cannot edit this field.

Actual Qty

Enter the quantity actually consumed by the batch. You cannot edit this field directly until the batch has been released.

For automatic release lines, when you release the batch the quantity of the pending transaction(s) that had been associated with the line defaults into this field.

For manual release lines, the quantity you release using the Completed field on the Line Allocations dialog box defaults into this field.

For incremental release lines, the actual quantity is updated through partial certification backflushing.

UOM

The unit of measure in which the quantities are expressed is displayed. This is the unit of measure used on the batch.

Allocated

If this field is checked, the item is allocated.

Batch Input Form - Simultaneous Multi-User Batch Access Mode

If you turn on POC for the plant and there is POC data associated with the batch, use a Query option to enter a batch step number in the Step field to retrieve the batch lines associated with that step. The Step Status field displays with the current status of the retrieved step. This locks that step and disables whole batch functions (certifying, etc.). If you leave the Step field blank, all input lines are retrieved.

If this screen is accessed from the Batches, Batch Ingredients, or Batch Byproducts screens, the Step field will be blank and all input lines will be displayed. If this screen is accessed from the Batch Output screen and the Step field was left blank on Batch Output, the Step field on Batch Input will be blank as well. If a step had been specified on Batch Output, that same step will be displayed on Batch Input, and only input lines associated with that step will be displayed. If a user attempts to retrieve a step that has no ingredients associated with it, a message, "This step has no ingredients" will be displayed and the user will not be able to retrieve the step on Batch Input.

If a step is retrieved, all whole-batch functions are disabled. This includes batch release, batch unrelease, batch certification, batch close, batch cancel, scaling and performing a theoretical yield calculation. In addition, access to the Batches, Batch Ingredients, and Batch Byproducts screens will be disabled, since they are whole-batch screens. Both menu access and hot-key access are also disabled.

Finding Batches on the Batch Input Form

There are several options for locating a record and populating a form. The List of Values option displays a dialog box with the appropriate records. The Query Find option displays a separate block called the Find form, where you enter your search criteria.

Finding Batches On Batch Input - Procedure

Take the following steps:

1. Choose **Find** from the **Query** menu.

2. Complete one or any combination of fields as described in the *Find Batches On Batch Input - Fields* topic.

3. Click **Find**.

Find Batches On Batch Input - Fields

Status

Select the current status of the batch (Canceled, Pending, WIP, Certified, Closed) from the list.

Batch

Enter the batch number.

Formula

Enter the formula code on which the batch is based.

Version

Enter the version number of the formula.

Routing

Enter the routing ID number.

Version

Enter the routing version number.

WIP Warehouse

Enter the WIP warehouse for the batch.

Planned Start

Enter the planned start date.

Planned Completion

Enter the planned completion date.

Required Completion

Enter the required completion date.

Actual Start

Enter the actual start date of the batch.

Actual Completion

Enter the actual completion date of the batch.

Batch Close

Enter the batch close date.

Batch Input - Allocating Lines in a Batch

When you click the drill-down indicator box next to the line you want to allocate the Line Allocations dialog box appears.

Batch Input - Allocating Lines in a Batch - Procedure

1. Navigate to the **Line Allocation** dialog box.
2. Complete the fields as described in the *Line Allocations Dialog Box - Fields* topic.
3. Click **OK.**

Line Allocations Dialog Box - Fields

Lot

Enter the lot you are allocating to the batch. This field is only accessible if the ingredient is lot-controlled and is then required.

Sublot

Enter the sublot you are allocating to the batch. This field is only accessible if the ingredient is sublot-controlled, and is then required.

Warehouse

Enter the warehouse from which the ingredient was or will be taken for the batch. This defaults to the consumption warehouse specified for the ingredient on the Plant Warehouses form. Required.

Location

Enter the location from which the ingredient was or will be taken for the batch. This field is only accessible if the ingredient and warehouse are location-controlled and is then required.

To see all the fields described below you use the scroll bar.

Allocated Qty

Enter the quantity of the ingredient which is being taken from the specified lot/sublot and warehouse/location. Required.

Completed

This field is used to release ingredient lines set to manual release on the Additional Edit dialog box accessible from the Special menu on the Batch Ingredients form. This field is only accessible if the ingredient line is set to manual or incremental release, and then only when the batch is WIP. Check this box to release the quantity specified. This replaces the pending transactions with completed transactions.

Reason

Enter a reason code associated with this transaction. This code can provide information about the transaction.

Secondary Qty

If the item is set up for dual unit of measure, enter the secondary quantity.

Secondary UOM

If the item is set up for dual unit of measure, then the UOM in which the secondary quantity is expressed is displayed.

Transaction Date

Enter the date of the transaction. The defaults for this field are as follows:

- When the batch is created, ingredient transactions default to the planned start date.

- When the batch is released, ingredients with a release type of automatic default to the actual start date and time.

- Ingredients with a release type of manual or incremental default to the system date and time when the completion indicator on the Batch Input or Batch Output form is checked.

Note: Changing the actual start date after releasing the batch and changing the actual completion date after certifying the batch do not update the transaction dates.

Total Completed

The total quantity of all completed transactions associated with the ingredient line is displayed. This is the quantity which has been released.

Total Pending

The total quantity of all pending transactions associated with the ingredient line is displayed. This is the quantity which has not been released.

Total Allocated

The total quantity of the ingredient line which has been allocated is displayed.

Line Allocations Dialog Box - Buttons

Previous Line

This accesses the transaction on the previous ingredient line.

Next Line

This accesses the transactions on the next ingredient line.

Batch Input Form - Special Menu

Depending on whether you have the cursor in the header or Input Lines panels, the following options are available on the Special menu.

Details

This displays the Line Allocations dialog box. See *Batch Input - Allocating Lines in a Batch*.

Additional Edit

Accesses the Additional Edit dialog box, which allows you to enter additional information, such as scale type and release type, for each ingredient line.

Edit Parent

If you are editing a phantom batch, this retrieves the parent batch.

Edit Phantom

If the cursor is on a phantom ingredient, this retrieves the phantom batch.

Inventory Summary

Accesses the Inventory Summary form. This form lists available and committed quantities for an item by warehouse and QC grade. See the *Oracle Process Manufacturing Inventory Management User's Guide* for more information on this form.

Scale Batch

Accesses the Scale Batch dialog box, which allows you to scale the quantities of the ingredients, products, and byproducts in the batch. For more information on scaling refer to the section on Scaling and Theoretical Yield.

Partial Certify

Accesses the Partial Certification dialog box. This form enables you to enter incremental quantities, a new actual quantity or a new percent of plan for an item. Note that this dialog box can only be used with a WIP or Certified Batch. For more information on this option, refer to the section on Partial Certification .

Create Phantom

If the cursor is on an unexploded phantom, this Accesses the Create Batch/Firm Planned Order dialog box on which you can create the phantom batch.

Pick Lots/Loct

Accesses the Pick Lots/Locations form, which displays the lots and locations of an ingredient which are available to be allocated to the batch.

Allocate Batch

Allocates all ingredient lines which belong to an allocation class flagged for auto-allocation (automatic or user-initiated).

Allocate Line

Allocates the ingredient line on which the cursor is positioned, if that ingredient belongs to an allocation class flagged for auto-allocation (automatic or user-initiated).

Inventory Shortage

Checks whether there are inventory shortages of any ingredients in the batch. If there are, the shortages are displayed on the Inventory Shortages form.

Certify

Certifies the batch and changes the batch status to Certified. This writes completed transactions for all of the product lines which are flagged for automatic release on the Additional Edit dialog box.

Byproducts

Accesses the Batch By-products form.

Batch Input Form - Buttons

Batch Steps

Displays the Batch Steps form. For more information on this form, refer to the *Oracle Process Manufacturing Process Operations Control User's Guide*. This button only works if there is POC data associated with the batch.

Ingredients

Accesses the Batch Ingredients form.

Output

Accesses the Batch Output form, on which you allocate product and byproduct lines.

Products

Accesses the Batches form.

Pick Lots/Locations

The Pick Lots/Locations form displays the lots and locations of the ingredient available to be allocated to the batch. Only lots available in the warehouse specified on the Batch Input transaction line are displayed. You can select the lots and locations to allocate, and the quantity of each.

Pick Lots/Locations form - Fields

Lot

The lot available for allocation is displayed.

Sublot

The sublot available for allocation is displayed.

Location

The location in which the ingredient is available for allocation is displayed.

Expiration Date

The expiration date of the lot is displayed.

Available Quantity

The quantity available to be allocated to the batch is displayed. This is the onhand quantity nettable for production minus any prior commitments.

Allocation

Enter the quantity of the lot/location which you are allocating to the batch.

Creation Date

The creation date of the lot is displayed.

Quality Control Grade

The QC grade of the lot is displayed, if the item is grade-controlled.

Unallocated Quantity

The quantity which has not yet been allocated is displayed.

(unlabeled)

The unit of measure used for the ingredient on the batch is displayed. All quantities on this form are expressed in this unit of measure.

Selected Quantity

The total of the allocations which you have just made is displayed.

Batch Output Overview

This section discusses:

- Allocating Products and Byproducts
- Certification

Batch Output - Allocating Products and Byproducts

Allocation of products and byproducts is done on the Batch Output form. While allocating ingredients refers to taking material from existing lots or locations, allocating products refers to creating and naming new lots or specifying the location in which the product will be placed.

Batch Output - Certification

Certifying a batch signifies that the batch is finished and has yielded all of its product. You certify a batch by selecting Certify from the Special menu on any of the batches forms.

Prior to certifying a batch, the transactions associated with the product and byproduct lines flagged for automatic release are pending transactions. When you certify a batch, the pending transactions associated with these product and byproduct lines are deleted and replaced with completed transactions. (Product and byproduct lines are flagged for automatic release on the Additional Edit dialog box, accessible by selecting Additional Edit from the Special menu on the Batches and Batch By-products forms respectively.)

Manual Certification

Manual and partial certification of products are similar to manual and partial release of ingredients. For example, you may have a product that is yielded before other products. You may want to manually certify this product before you certify the rest. Alternatively, you may have a batch which runs a long time and yields the product a bit at a time. In this case, you would have to use partial certification to record the quantities as they are yielded.

When you want to certify a product separately from the others, or when you want to partially certify one or more products, you can flag these product lines for manual certification on the Additional Edit dialog box. (The flag on the Additional Edit dialog box is called Release Type, since this dialog box is also used for ingredient lines, but for product and byproduct lines it actually controls certification type.

The Batch Output form is used to certify these products flagged for manual certification. You do this by checking the Completed field on the Line Allocations dialog box. This replaces a pending transaction with a completed transaction. You can certify the entire product quantity, or you can certify a bit at a time by adding a new transaction line and creating a completed transaction for the quantity you are certifying. This decreases the quantity on the pending transaction to indicate the quantity that has not yet been certified.

You can only certify product and byproduct lines manually on a batch which has a status of WIP (that is, a batch which has been released but not certified). When you certify the batch, any pending transactions for manual certification product and byproduct lines (that is, any quantities which you did not manually certify) are deleted.

If you want to perform partial certification with backflushing, you can use Partial Certification which is briefly described below. For more detailed information, refer to the Partial Certification with Backflushing section.

Partial Certification with Backflushing

Partial Certification with Backflushing enables you to incrementally record production yield as it occurs. With this feature you can incrementally record production yield prior to the batch being completed (partial certification) and OPM will calculate the ingredient usage (backflushing).

Partial Certification is initiated in WIP batches by selecting Partial Cert from either the Production menu or the Special menu on the Batch Output or Batch Input forms. This retrieves the Partial Certification dialog box. At this screen, you can enter either an incremental quantity, a new actual quantity, or a new percent of plan (Actual Qty/Planned Qty * 100).

If the Partial Certification dialog box was accessed from the Production menu, the batch is saved. If the dialog box was accessed from one of the Batches forms, OPM displays the original form. You can then edit the calculated actual quantities or enter additional allocations, if necessary, before saving.

For more information on this option, refer to the section on Partial Certification with Backflushing.

Batch Output Form

Use the Batch Output form to identify the material which has been or will be produced by a batch. In other words, this is the form used to allocate products and byproduct lots and locations for a batch.

You cannot add, delete, or change products, byproducts, or planned quantities on this form. To change these, you must use the Batches form for products and product planned quantities, and the Batch By-Products form for byproducts and byproduct quantities.

Note: This form has descriptive flexfields. See the *Oracle Applications* user's guide for more information.

Batch Output Form - Fields

Batch

Using a Query function, enter the number of the batch for which you want to record output. The batch number is preceded by your default organization code. The combination of organization code and batch number uniquely identify a batch.

Status

The current status of the batch is displayed. You cannot edit this field.

Step

Using a Query function, enter the batch step number you want to retrieve. This field only displays if you turn on POC for the current organization and is only accessible if the batch being edited has POC data associated with it.

Step Status

This field only displays if you entered a step in the Step field. It shows the status of the step (example: cert). Cannot be edited.

Formula

The formula and formula version on which the batch was based is displayed.

Routing

The routing and routing version used for the batch are displayed. You cannot edit this field.

Seq

The product or byproduct line number is displayed.

Item

The item number of each product or byproduct is displayed. You cannot edit this field.

Description

The description of the item is displayed. You cannot edit this field.

Planned Qty

The quantity of the product or byproduct which the batch was planned to yield is displayed. You cannot edit this field.

Actual Qty

Enter the quantity actually yielded by the batch.

For automatic release lines, when you certify the batch the allocated quantity defaults into this field.

For manual release lines, the quantity you release using the Complete field defaults into this field.

For incremental release lines, the actual quantity is updated when a partial certification is performed.

UOM

The unit of measure in which the quantities are expressed is displayed. This is the unit of measure used on the batch.

Allocated

If this field is checked, the item is allocated.

Finding Batches on the Batch Output Form

There are several options for locating a record and populating a form. The List of Values option displays a dialog box with the appropriate records. The Query Find option displays a separate block called the Find form, where you enter your search criteria.

Finding Batches - Procedure

Take the following steps:

1. Choose **Find** from the **Query** menu.
2. Complete one or any combination of fields as described in the *Find Batches - Fields* topic.
3. Click **Find**.

Find Batches - Fields

Status

Select the current status of the batch (Canceled, Pending, WIP, Certified, Closed) from the list.

Batch

Enter the batch number.

Formula

Enter the formula code on which the batch is based.

Version

Enter the version number of the formula.

Routing

Enter the routing ID number.

Version

Enter the routing version number.

WIP Warehouse

Enter the WIP warehouse for the batch.

Planned Start

Enter the planned start date.

Planned Completion

Enter the planned completion date.

Required Completion

Enter the required completion date.

Actual Start

Enter the actual start date of the batch.

Actual Completion

Enter the actual completion date of the batch.

Batch Close

Enter the batch close date.

Batch Output - Allocating Lines in a Batch

When you click the indicator box next to the line you want to allocate the Line Allocations dialog box appears.

Batch Output - Allocating Lines in a Batch - Procedure

1. Navigate to the **Line Allocation** dialog box.
2. Complete the fields as described in the *Line Allocations Dialog Box - Fields* topic.
3. Click **OK.**

Line Allocations Dialog Box - Fields

Lot

Enter the lot you are allocating to the batch. This field is only accessible if the ingredient is lot-controlled, and is then required.

Sublot

Enter the sublot you are allocating to the batch. This field is only accessible if the ingredient is sublot-controlled, and is then required.

Warehouse

Enter the warehouse from which the product was or will be taken for the batch. This defaults to the consumption warehouse specified for the ingredient on the Plant Warehouses form. Required.

Location

Enter the location from which the product was or will be taken for the batch. This field is only accessible if the ingredient and warehouse are location-controlled, and is then required.

Note: To see all the fields described below you use the scroll bar.

Allocated Qty

Enter the quantity of the product which is being taken from the specified lot/sublot and warehouse/location. Required.

Completed

This field is used to release product lines set to manual release on the Additional Information dialog box accessible from the Special menu on the Batch Ingredients form. This field is only accessible if the product line is set to manual or incremental release, and then only when the batch is WIP. Check this box to release the quantity specified. This replaces the pending transactions with completed transactions

Reason

Enter a reason code associated with this transaction. This code can provide information about the transaction.

Secondary Qty

If the item is set up for dual unit of measure, enter the secondary quantity.

Secondary UOM

If the item is set up for dual unit of measure, then the UOM in which the secondary quantity is expressed is displayed.

Transaction Date

Enter the date of the transaction. The defaults for this field are as follows:

- When the batch is created, ingredient transactions default to the planned start date.

- When the batch is released, ingredients with a release type of automatic default to the actual start date and time.

- Ingredients, with a release type of manual or incremental default to the system date and time when the completion indicator on the Batch Input or Batch Output form is checked.

Note: Changing the actual start date after releasing the batch and changing the actual completion date after certifying the batch do not update the transaction dates.

Total Completed

The total quantity of all completed transactions associated with the ingredient line is displayed. This is the quantity which has been released.

Total Pending

The total quantity of all pending transactions associated with the ingredient line is displayed. This is the quantity which has not been released.

Total Allocated

The total quantity of the ingredient line which has been allocated is displayed.

Line Allocations Dialog Box - Buttons

Previous Line

This accesses the transaction on the previous ingredient line.

Next Line

This accesses the transactions on the next ingredient line.

Batch Output Form - Buttons

Batch Steps

Access the Batch Steps form. For more information on this form, refer to the *Oracle Process Manufacturing Process Operations Control User's Guide*. This button only works if there is POC data associated with the batch.

Ingredients

Accesses the Batch Ingredients form.

Input

Access the Batch Input form.

Products

Access the Batches form.

Batch Output - Special Menu

Details

This displays the Line Allocations dialog box. *See Batch Output - Allocating Lines in a Batch*.

Additional Edit

Accesses the Additional Edit dialog box, which allows you to enter additional information, such as scale type and release type, for each ingredient line.

Edit Parent

If you are editing a phantom batch, this retrieves the parent batch.

Inventory Summary

Accesses the Inventory Summary form. This form lists available and committed quantities for an item by warehouse and QC grade. See the *Oracle Process Manufacturing Inventory Management User's Guide* for more information on this form.

Scale Batch

Accesses the Scale Batch dialog box, which allows you to scale the quantities of the ingredients, products, and byproducts in the batch. For more information on scaling refer to the section on Scaling and Theoretical Yield later on in this guide.

Theoretical Yield

If the cursor is on a product line, this option accesses the Calculate Theoretical Yield dialog box, which allows calculation of the product quantities based on the ingredient quantities and a yield factor. You can only use this option when entering a new batch.

Partial Certify

Accesses the Partial Certification dialog box. This form enables you to enter incremental quantities, a new actual quantity or a new percent of plan for an item. Note that this dialog box can only be used with a WIP or Certified Batch.

Certify

Certifies the batch and changes the batch status to Certified. This writes completed transactions for all of the product lines which are flagged for automatic release on the Additional Edit dialog box.

Simultaneous Multi-User Batch Access

In batch manufacturing, there are distinct independent production events (batches). These are often processed through a series of steps, which may take place on different machinery or at different work centers. Specific ingredients may be consumed at specific steps, and specific products or byproducts may be yielded at specific steps.

If you enabled simultaneous multi-user batch, multiple users may retrieve and edit the items associated with a single step on the Batch Input or the Batch Output forms.

Simultaneous Multi-User Batch Access - Business Scenario

The following is a hypothetical scenario of a user who is not interested in recording POC data but who needs the multi-user batch access functionality. In this example, the user has a production line which consists of three workcenters, which are modeled as three steps in a routing, each of which has its own terminal for accessing OPM. The line processes one batch per shift. At the end of the shift, each user records all lots consumed and yielded for their workcenter.

Below is an list of the action steps that might occur during a production cycle when using simultaneous multi-user batch access.

1. Production manager schedules a batch by creating a Pending batch, using the Create Batch/Firmed Planned Order dialog box or the Batches, Batch Input, or Batch Output screens.

2. Production manager releases the batch at the beginning of the shift by selecting Release from the Special menu on the Batches forms.

3. At the end of the shift, the production floor users from each workcenter retrieve their batch step on either the Batch Input or Batch Output screens by entering the batch number and the step number. Each user sees only the items associated with the step they are editing. All three users are simultaneously editing the same batch, but different pieces of the batch.

4. Production floor users enter lots and quantities consumed for each ingredient associated with their step, and lots and quantities produced for each product and byproduct associated with their step.

5. After the production floor users have finished, the production manager retrieves the whole batch on either the Batches screen, or on the Batch Input or Batch Output screens by leaving the step field blank. After verifying that all the data is correct, the production manager certifies the batch by selecting Certify from the Special menu.

Partial Certification with Backflushing

Partial Certification with Backflushing Overview

Process manufacturing can be broken down into three categories: batch-oriented processing, continuous processing, and campaign processing. In continuous processing, ingredient quantities are consumed incrementally, and product quantities are yielded incrementally. In order for inventory levels to be updated in a timely manner, you need to record batch consumption and batch yield incrementally, as it happens. In addition, you may decide to calculate usage from the product yield.

Partial Certification enables you to incrementally record production output or yield as it occurs, prior to the batch being completed. Then, when you save the batch, OPM calculates the ingredient usage (backflushes) the ingredients. Partial certification with backflushing can only be done on WIP or Certified batches.

Partial Certification with Backflushing - Example

In Partial Certification with Backflushing, OPM calculates actual quantities for the "incremental" items (release type incremental) in a WIP batch proportional to the quantity of the item you selected for 'partial certification.' The following example illustrates how this works as new incremental quantities of a product are entered:

The formula on which the batch is based consists of the following:

Item	Release Type	Scale Type	Qty
Prod1	**Manual**	**Linear Scaling**	**100**
Ing1	Incremental	Linear Scaling	90
Ing2	Incremental	Fixed Quantity	2
Ing3	Manual	Linear Scaling	8

Note: You set incremental release types on the Additional Information box in the Formula Module or the Additional Edit box in the Production Module. For new detail lines, you can set up a default release type of Incremental in the Systems module System Profile Values form using the FM$DEFAULT_RELEASE_ TYPE System Profile.

When the batch is released, the quantities will be as follows:

Item	Plan Qty	Actual Qty
Prod1	**100**	**0**
Ing1	90	0
Ing2	20	0
Ing3	80	0

In this example, a partial certification is performed by entering an incremental quantity of 10 of Prod1 on the Partial Certification Dialog box. When you accept the partial certification, batch quantities will be as follows:

Item	Plan Qty	Actual Qty
Prod1	**100**	**10**
Ing1	90	9
Ing2	2	2
Ing3	8	0

When 10 of Prod1 is partially certified, the actual quantity of Ing1 is calculated to be 9. To calculate this, OPM divides the quantity being partially certified (the incremental quantity) by the planned quantity of that item to calculate a scale factor. In this case, the incremental quantity entered of Prod1 was 10 and the scale factor is 10/100 or 0.1. The planned quantity of each scaleable item with a release type of Incremental is multiplied by this factor to calculate the incremental increase in the actual quantity of these items. (For information on scaling see the next section). In this case, the planned quantity of Ing1, 90, was multiplied by 0.1 to give an incremental quantity of 9. This was added to the old actual quantity, which was 0, to give a new actual quantity of 9.

Note that the quantity of Ing1 was calculated without regard to whether other items in the batch were non-scaleable or had a release type other than Incremental. This is different from the calculations used in standard scaling in Formula Management, Production Management, and MRP, which compensate for non-scaleable items when calculating new quantities for scaleable items. (See the section on Theoretical Yield and Scaling.

Note also that the actual quantity of Ing2, which has a release type of Incremental, but a scale type of non-scaleable, was calculated to be 2, not 0.2. Since this item is non-scaleable, a batch will consume 2 units. For non-scaleable, Incremental items, OPM consumes the full planned quantity the first time a partial certification is performed.

Since Ing3 has a release type of Manual, its quantity is not affected by the Partial Certification. You must manually enter actual quantities for items with a release type of Manual.

Now let's say that one unit of Ing1 was spilled, and the quantity consumed was actually 10 instead of 9. You can adjust this quantity on the Batch Input form. The new batch quantities would be as follows:

Item	Plan Qty	Actual Qty
Prod1	100	10
Ing1	90	10
Ing2	2	2
Ing3	8	0

When you edit items with a release type of Incremental on the Batch Input or Batch Output forms, they act exactly the same as items with a release type of Manual. Since in this example the adjustment was made on the Batch Input form, there was no effect on the quantities of the other items in the batch.

Now you do another Partial Certification of 10 units of Prod1. The batch quantities will be as follows:

Item	Plan Qty	Actual Qty
Prod1	100	20
Ing1	90	19
Ing2	2	2
Ing3	8	0

Another 10 units is added to the actual quantity of Prod1, and the scale factor is again calculated to be 0.1. An incremental quantity of 9 units of Ing1 is again calculated and added to the previous actual quantity of 10, resulting in a new actual quantity of 19. The actual quantities of Ing2 and Ing3 remain unchanged.

Each time a Partial Certification is performed, OPM will create completed transactions for the incremental quantity. Thus, if you looked at the transactions for Ing1, assuming for the moment that it is not lot- or location-controlled, you would see the following:

Complete	9	(from the first partial certification)
Complete	1	(from the manual adjustment)
Complete	9	(from the second partial certification)
Pending	71	(the remaining difference between the planned and the actual quantity)

Note that it is not required that the item that drives the Partial Certification (in this case, Prod1) have a release type of Incremental. In fact, since the quantity of the item *driving* Partial Certification is measured and entered, not calculated by OPM, it should generally have a release type of Manual. It is also not required that the item driving Partial Certification be a product. The Partial Certification could be driven by a byproduct or ingredient also.

Note also that the backflushing that is done in conjunction with partial certification is different than the backflushing done to phantom batches. When a change is made to a phantom quantity in a parent batch and the user responds Yes to the message "Backflush quantity to phantom batches?", that backflush updates the quantities of the ingredients in the phantom batch based on the scaling algorithm, not the algorithm described above.

Partial Certification with Backflushing - Sample Scenarios

The next two topics present two scenario of how users might use Partial Certification with Backflushing during a production run:

Partial Certification with Backflushing - Scenario One

1. A portion of the planned quantity of a product in a batch is produced and measured.

   - The user selects Partial Cert from the Production menu.

   - At the dialog box, the user enters either the incremental quantity produced, the new actual quantity to far or the new percent of plan so far.

   - OPM calculates the actual quantities of ingredients that were consumed.

2. During the production run an ingredient is spilled. An extra, unplanned quantity of one of the ingredients is used.

   - User enters the actual quantity of that ingredient on the Batch Output form. This does not affect the actual quantities of the other items.

Partial Certification with Backflushing - Scenario Two

1. A portion of the planned quantity of an ingredient in another batch is consumed and measured.

   - At the Partial Certification dialog box, the user enters either the incremental quantity consumed, the new actual quantity so far, or the new percent of plan so far.

   - OPM calculates the actual quantities of the other ingredients that were consumed and the actual quantity of the product that was yielded.

2. A lower quantity of the product of the above batch was yielded than was expected based on ingredient usage.

   - The adjusts the quantity of that product on the Batch Output form. The actual quantity of the other items is not affected.

Partial Certification - Allocating Ingredients

For pending transactions, if any of the *ingredients* with a release type of Incremental are lot- or location-controlled, and you entered allocations before the Partial Certification, the system will attempt to automatically consume the additional actual quantity from those allocations. For example, if Ing1 in the example given was lot-controlled and 30 units had been allocated from each of three lots before the first Partial Certification, then when you perform the Partial Certification with Backflushing, the system will consume the 9 units from the first lot that had been allocated.

Similarly, if the *product* was lot- or location-controlled and had been allocated before the Partial Certification, the system would automatically yield into the allocated lot or lots in the order in which they were allocated.

Note: OPM does not create new lot allocations when partial certifying, but consumes ingredients from or yields products into already existing lot allocations.

As with Manual release items, the full actual quantity of Incremental release items must be allocated in order to save the batch. This is necessary to avoid having a pending default lot transaction and a completed default lot transaction for the same batch line. If there is insufficient quantity in pending allocations to consume from (or yield into) when a Partial Certification is performed, the Unallocated Items dialog box will be displayed when you try to save the batch.

Since you can drive Partial Certification by entering an actual quantity less than the current actual quantity (or enter a negative incremental quantity), the system "de-consumes" from allocations. If actual quantities are reduced through Partial Certification, OPM resets the allocations which had been completed back to pending status, until the completed allocations equal the new actual quantity.

Partial Certification After Full Certification - Adjusting Actuals

The Partial Certification dialog box also allows you to adjust actual quantities after certification. You can change a product quantity on a certified batch, and have the actual quantities for the other incremental release items in the batch backflushed or recalculated.

Note: OPM provides two other ways to change product quantities after certification. 1) Edit the product actual quantity directly, which does not change the quantities of any other items in the batch, and creates a yield variance; and 2) Scale the certified batch, which changes the actual quantities of all scaleable items in the batch.

Partial Certification and Phantoms

If a phantom ingredient has a release type of Incremental in the parent batch, the ingredient will be updated by partial certification. The ingredients in the phantom batch will be handled as if you had manually changed the phantom quantity. That is, you will be asked "Backflush quantity to phantom batches (Y/N)?" If you answer yes, standard phantom backflushing (using the scaling algorithm, not the partial certification backflush algorithm) will be done. If you answer No, the quantities of the ingredients in the phantom batches will not be changed.

Standard Backflushing and Phantoms

If you manually edit the actual quantity of an Incremental release phantom ingredient in the parent batch, OPM will perform standard backflushing when you save the batch. The system will display the question, "Backflush quantity to phantom batches (Y/N) ?", and if you answer Y, OPM will perform standard phantom backflushing.

Note: Since the phantom backflushing uses standard scaling, which is based on planned quantities and which compensates for non-scaleable items, the actual quantities calculated for the ingredients in the phantom batch through phantom backflushing may be different from the actual quantities that would have been calculated by the incremental update from Partial Certification. In fact, you may want to answer No to the "Backflush quantity to phantom batches (Y/N) ?" question, and manually edit the actual quantities of the ingredients in the phantom batch if necessary.

Partial Certification - Scrap Factor

If Partial Certification is driven by an ingredient with a scrap factor, the scale factor is calculated by comparing the incremental quantity with the ingredient's required quantity rather than its planned quantity. When Partial Certification is driven by an ingredient with a scrap factor, the formula will be:

Scale Factor = (incremental quantity)/(required quantity)

Since (required quantity) = (planned quantity) * (1 + scrap_factor), the formula works out to be

Scale Factor = [incremental quantity)/[planned quantity) * (1 + scrap_factor)]

Likewise, if there are ingredients with scrap factors that have a release type of Incremental, the backflush quantity (that is, the quantity that will be added to the ingredients current actual quantity to determine the new actual quantity) is calculated by multiplying the scale factor by the ingredient's required quantity instead of its planned quantity. Therefore,

Backflush Quantity = (scale factor) * (required quantity)

Substituting the formula for required quantity, this works out to:

Backflush Quantity = (scale factor) * [(planned quantity) * (1 + scrap_factor)]

Partial Certification - Inserting Items into a WIP Batch

When you insert an item in a WIP batch, you cannot enter a planned quantity. Incremental updates calculated for the actual quantity of Incremental release items are calculated by multiplying the scale factor by the item's planned quantity. Therefore, items added to a WIP batch will not be incrementally updated, even if their release type is Incremental.

Changing Release Type After Partial Certification

If you change the release type of a product or byproduct to Incremental after you have done some Partial Certifications, the product for which the release type has just been changed will be updated by future partial certifications. Its percent of plan, however, will not be the same as the percent of plan of the other Incremental items. This occurs because the scale factor calculated by Partial Certification is an incremental scale factor.

For example, suppose you have done Partial Certification for 50% of the planned quantity of an item. The Incremental release items will have been updated so that their actual quantity is 50% of their planned quantity. Now, you change the release type of a product to Incremental release that previously was Automatic release. Then, you do another Partial Certification for an additional 10% of the item driving Partial Certification. Ten percent of the planned quantity will be added to the actual quantity of the Incremental items in the batch. Therefore, the items that had been Incremental release all along will have an actual quantity equal to 60% of their planned quantity, while the product that just had its release type changed will have an actual quantity equal to only 10% of its planned quantity.

Trying to change the release type of a product from Incremental release to Automatic release in a WIP batch will be handled like changing from Manual release to Automatic release. If there are any completed transaction lines for the Incremental release product, they will have to be deleted before you can change the release type to Automatic and save, since there cannot be completed transactions for Automatic release products in a WIP batch.

Partial Certification Sample Procedures

The next two topics present procedures you might follow when using Partial Certification with Backflushing.

Partial Certification - Sample Procedure 1

In this example, the planned quantity of the ingredients and products is allocated before the batch is run.

1. Create a batch from the formula.

2. Allocate the planned quantity of the ingredients and products.

3. Release the batch on **Batches** forms.

4. Each time you record a new quantity of the product yielded by the batch, enter this on the **Partial Certification** dialog box. You can enter either the incremental quantity, the new actual quantity, or the percent of plan that was produced so far. Select **OK** on the **Partial Certification** dialog box. The batch will be saved, with the actual quantity updated for the product and ingredients, and the quantities will be consumed from the existing allocations.

5. When the batch is complete, certify the batch.

Partial Certification - Sample Procedure 2

In this example, the planned quantity of the ingredients is allocated before the batch is run, but the product is not allocated. Each time a new lot of the product is yielded, the lot number and quantity produced is reported.

1. Create a batch from the formula.

2. Allocate the planned quantity of the ingredients.

3. Release the batch on the **Batches** form.

4. Each time a lot of the product is yielded, enter the new lot and quantity on the Batch Output.

5. Check the **Completed** box on the **Line Allocation** form's lot transaction lines to indicate that the transaction is a completed transaction.

6. Display the Batch Output form. The new lot quantity that you entered is automatically added to the actual quantity.

7. Without first saving, select **Partial Certify** from the **Special** menu. **The Partial Certification** dialog box is displayed, showing the new actual quantity and the incremental quantity that you had entered for the new lot.

8. Click **OK**. You are returned to the **Batch Output** form. The actual quantity of the ingredients will have been backflushed.

9. Save the batch.

10. When the batch is complete, certify the batch.

Release Type Setup for Partial Certification

Items must have a release type of Incremental in order to be backflushed by partial certification. You can set up incremental release types in one of two ways:

- Set the FM$DEFAULT_RELEASE TYPE System Profile to 2 so that newly inserted lines in the formulas and batches will default to incremental.

- Alternatively, you can individually set the release types of items to incremental at the Additional Information dialog box at either the Formula Ingredients form or the Additional Edit dialog box at the Batches, Batch Ingredients Batch Byproducts, Batch Input or Batch Output forms.

Partial Certification Dialog Box

The Partial Certification dialog box drives Partial Certification with Backflushing. At this dialog box, you enter an incremental quantity, a new actual quantity, or a new percent of plan for an item. This dialog box can only be used with a WIP or Certified batch.

Partial Certification with Backflushing - Procedure

You initiate Partial Certification with Backflushing in WIP or Certified batches as follows:

1. Navigate to the **Partial Certification** dialog box.

   - If you accessed the dialog box from the Production menu, you enter a batch number at the **Batch** field. This displays the header information.

   - If you accessed the dialog box from the **Batch Input** or **Batch Output** forms, the dialog box displays with the header information already entered

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Note: If you enter the number of a phantom batch, an error message will display and the batch cannot be retrieved. Phantom batches cannot drive Partial Certification with Backflushing because changes made to phantoms do not directly affect the parent batch.

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3. If you selected **Partial Cert** from the **Production** menu, enter the item which you are using to drive the partial certification, then proceed to step 4. Otherwise, proceed directly to step 4.

4. Enter either an incremental quantity in the **Incremental** field, a new actual quantity in the **New Actual** field, or a new percent of plan in the **Percent Of Plan** field (for a full description of these fields, see the *Partial Certification Dialog Box - Fields* topic). Based on which field you filled in, OPM will calculate the values for the other fields.

5. When you click **OK**, OPM performs Backflushing by calculating a new actual quantity for all the items in the batch which have a release type of Incremental If you accessed the Partial Certification dialog box from the Production menu, the batch is saved.

- If you accessed it from the **Batch Input** or **Batch Output** form, OPM returns you to the form from which you selected Partial Certify from the Special menu. You can then edit the calculated actual quantities or enter additional allocations, if necessary, before saving.

Partial Certification Dialog Box - Fields

The sections that follow describe the fields on the Partial Certification Dialog Box.

Header Panel

Batch

The production batch number assigned when you create the batch. If the dialog box was accessed from the Production menu, enter the number of the batch to partial certify. If the dialog box was accessed from one of the Batches forms, the batch number will be passed in from that form.

Status

This field displays the batch status must be WIP or Certified. This is pulled from the batch header information. Cannot be edited.

Product

This field displays the first product that the batch will produce. Cannot be edited.

Formula

This field displays the formula and version from which the batch was created. Cannot be edited.

Routing

This field displays the routing code and version associated with the batch. Routings define the processes or steps that produce the product. Routings are set up in Formula Management module. Cannot be edited.

Batch Line Panel

Item

The item driving the Partial Certification. You enter the item number here if this dialog box was accessed from the Production menu. If the dialog box was accessed from one of the Batches forms, this information is passed in from the line on which the cursor was positioned on that form. If this item appears on more than one line in the batch, the Partial

Description

The description of the item that drives the Partial Certification.

Type

Indicates whether the item is a product, byproduct or ingredient. Cannot be edited.

Seq

The line number of the product, byproduct or ingredient. This only displays after you fill in the Item field. Cannot be edited.

Quantities Panel

Incremental

The quantity from which the backflushing scale factor will be calculated. You can enter an incremental quantity or you can have OPM calculate it from the new actual quantity or new percent of plan entered in the fields described below. If this dialog box was accessed from one of the Batches forms and the actual quantity was edited there, this will default to the result of subtracting the new actual from the old actual. If the user makes an entry in the New Actual or Percent Of Plan fields on this dialog box, this will be calculated accordingly. The unlabeled field is the unit of measure in which batch quantities are expressed for the item.

Planned

The planned quantity of the item in the batch. Cannot be edited.

Old Actual

The last actual quantity saved. Cannot be edited.

New Actual

The new actual quantity of the ingredient. You can enter the actual quantity of the item here. If you entered an incremental quantity in the Incremental field described above, OPM calculates this quantity from old actual quantity plus the incremental quantity you entered. If you enter a percent of plan in the Percent of Plan field, OPM calculates this to be the new percent of plan times the planned quantity. If you accessed this dialog box from one of the Batches forms and the actual quantity was edited there, this should default to that quantity.

Percent of Plan

The percentage of the planned quantity produced or consumed so far. You can enter this quantity or it can be calculated based on the actual quantity you entered.

Scaling and Theoretical Yield

Scaling Production Batches

Scaling is the proportional increase or decrease of ingredients, products, and by-products in an FPO or batch. You scale FPOs and batches using the Scale Batch dialog box, which is accessed from the Firm Planned Order, Batches, and FPO and Batch Ingredients and By-products forms. An FPO or batch can only be scaled if the Scaling Allowed checkbox was selected was set to 1 (scalable) on the formula on which the FPO or batch is based. Only those items for which scaling is allowed will be scaled..

There are two ways to scale. When you enter the Scale Batch dialog box (by selecting Scale from the Special menu on any of the forms mentioned above), you are in percentage scaling mode. You can enter a percentage by which any scalable products will be scaled. For example, if you enter 100 percent, the product quantity will be scaled up by 100 percent (in other words, doubled), and the ingredient quantities will be increased accordingly. If you enter -50 (negative fifty) percent, the product quantity will be decreased by half. Percentage scaling is illustrated in Example 1.

Scaling Batches - Example 1

All products and ingredients set to linear scaling
Scale by 50 percent

Before Scaling

- Product 1   30 kilograms
- Ingredient 1   10 kilograms
- Ingredient 2   20 kilograms

After Scaling

- Product 1   45 kilograms
- Ingredient 1   15 kilograms
- Ingredient 2   30 kilograms

You can also scale by item quantity. To do this, place the cursor on the item you want to use as the basis for scaling before selecting Scale Batch. This must be a line item for which linear scaling is allowed as specified on the Additional Information dialog box. The item quantity fields will be displayed. Enter the new quantity which will be used (for an ingredient) or produced (for a product or by-product). The rest of the FPO or batch will be scaled accordingly You might want to do this if the formula calls for 10 kilograms of an ingredient, but you only have five. Item quantity scaling is illustrated in Example 2.

Scaling Batches - Example 2

All products and ingredients set to linear scaling
Scale Ingredient 1 (by item quantity) from 10 to 5 kilograms

Before Scaling

- Product 1   30 kilograms

- Ingredient 1   10 kilograms

- Ingredient 2   20 kilograms

After Scaling

- Product 1   15 kilograms

- Ingredient 1   5 kilograms

- Ingredient 2   10 kilograms

When you scale by percent, the product quantity will be scaled by the percent entered. If the FPO or batch contains fixed quantity ingredients, the scalable ingredients will be scaled by an amount necessary to produce the new product quantity, not by the percent entered as the scale factor. This is illustrated in Example 3 below.

Scaling - Example 3

Ingredient 1 set to scaleable, product 1, ingredient 2, and ingredient 3 set to linear scaling.
Scale by 100 percent.

Before Scaling

- Product 1   50 kilograms
- Ingredient 1   10 kilograms
- Ingredient 2   20 kilograms
- Ingredient 3   20 kilograms

After Scaling

- Product 1   100 kilograms
- Ingredient 1   10 kilograms
- Ingredient 2   45 kilograms
- Ingredient 3   45 kilograms

Note that ingredients 2 and 3 are scaled to the quantities necessary to increase the product quantity by 100 percent. Since ingredient 1 was fixed, the quantities of ingredients 2 and 3 were increased by more than the scale factor. If they had merely been increased by 100%, the ingredient quantities would sum to 90 kilograms, which is less than the product quantity of 100 kilograms.

This example would apply to a situation in which one of your ingredients (ingredient 1) is a non-recovered catalyst. The quantity of the catalyst does not need to be increased to produce more of the product, but the quantity of the other ingredients does.

To scale, the system must convert the quantities of the ingredients, products, and by-products to a common unit of measure if there is a non-scaleable item in the batch. The unit of measure used for the calculation is the base unit of measure for the unit of measure type specified by the FM_YIELD_TYPE System Profile. This profile usually specifies MASS as the UOM type. The base unit of measure for a unit of measure type is the first unit of measure of that type entered into OPM. Therefore, in order to scale an FPO or batch, unit of measure conversions to this unit of measure must be set up for all of the items in the FPO or batch. Item unit of measure conversions are set up on the Item Lot/Conversion form.

Scale Batch Dialog Box

This dialog is used to scale production batches. Use the Scale Batch dialog box to scale ingredient and product quantities in a batch. When you enter the dialog box, you are in percent-scaling . You can switch to item quantity mode by clicking the Item Quantity radio button.

Scaling Batches - Procedure

To scale batches, proceed as follows:

1. Navigate to the **Scale Batch** dialog box.
2. Complete the fields as described in *the Scale Batch Dialog Box - Fields* topic.
3. Click **OK**.

Scale Batch Dialog Box - Fields

Percent

Click this radio button if you want to scale by percent.

Factor

Enter the percent by which you want the FPO or batch scaled.

For example, to scale by 100% (that is, to double the product quantity), enter 100. To scale down by 20%, enter -20.

Note: This field is only displayed if you selected scaling by percent.

Item Quantity

Click this radio button to indicate that you want to scale by Item Quantity.

Note: This field is only accessible if the cursor was on an item that was set to allow scaling.

Note: The following fields are only displayed if you selected scaling by item quantity.

Line

The number of the line the cursor was on when you selected scaling from the previous form is displayed. This field cannot be edited.

Item

The item you are using as the basis for scaling is displayed from the previous form. This field cannot be edited.

Description

The description of the item you are using as the basis for scaling is displayed. This field cannot be edited.

Old Quantity

The quantity before scaling (that is, the quantity indicated on the previous form) is displayed. This field cannot be edited.

New Quantity

Enter the new quantity for this item. The system calculates the percent difference between the old quantity and the new quantity and scales the rest of the FPO or batch accordingly.

Calculating Theoretical Yield

In process manufacturing, the product quantities in a formula, FPO, or batch do not necessarily equal the sum of the ingredient quantities. For example, in a certain process you may know that five percent of the mass is lost to evaporation. OPM can use this information to calculate the theoretical yield (that is, the adjusted product quantities) of a formula, batch , or FPO. You can have OPM calculate theoretical yield using the Calculate Theoretical Yield dialog box. The example below illustrates the yield OPM will calculate if you specify a yield percent of 95.

Theoretical Yield - Example

- Ingredient 1   75 pounds
- Ingredient 2   25 pounds
- Product   95 pounds

OPM adds the ingredient quantities and multiplies by the yield percent.

To calculate theoretical yield, the system must convert the quantities of the ingredients, products, and by-products to a common unit of measure. The unit of measure used for the calculation is the base unit of measure for the unit of measure type (usually mass) specified by the FM_YIELD_TYPE System Profile. The base unit of measure for a unit of measure type is the first unit of measure of that type entered into OPM. Therefore, in order to calculate theoretical yield, unit of measure conversions to this unit of measure must be set up for all of the items in the formula, FPO, or batch. Generally, this means that the quantities of all of the items must be convertible to a "mass" unit of measure.

Calculate Theoretical Yield Dialog Box

Access this form by selecting Theoretical Yield from the Special pulldown menu on the Firm Planned Order, Batches, or FPO or Batch Ingredients or By-products form.

Use the Calculate Theoretical Yield dialog box to enter the percent yield for the FPO or batch. OPM will add the ingredient quantities, taking unit of measure conversions into account, and multiply the sum of the ingredient quantities by this percentage.

If the FPO or batch yields 100 percent, you can still use this dialog box to have OPM calculate the product quantities for you, or to check that you have added correctly. Simply use 100 percent as the yield percent.

Calculate Theoretical Yield Dialog Box - Fields

Yield Percent

Enter the percentage of ingredient quantities yielded in the product quantities. OPM will add the ingredient quantities, taking unit of measure conversions into account, and multiply the sum of the ingredient quantities by this percentage.

Online Inquiries and Reports

Viewing Production Schedule Information

This option allows you to view, but not edit a list of scheduled batches and/or FPOs.

Production Schedule Selection Criteria

When you select Production Schedule from the Production menu, the Production Schedule dialog box appears. This dialog box enables you to limit the list of schedules that will be displayed. After you accept the selected criteria, the Production Schedule form appears with a list of schedules that fit the criteria you entered.

Production Schedule Dialog Box - Procedure

1. Navigate to the **Production Schedule** dialog box.
2. Complete the fields as described in the *Production Schedule Dialog Box - Parameters* section.
3. Select **OK**. The **Production Schedule** dialog box displays with a list of scheduled batches and/or FPOs that fit the criteria you selected.

Production Schedule Dialog Box - Parameters

Organization

Enter the code that identifies the organization for which you want to view a list of scheduled batches and/or FPOs. The organization must be effective for the operator code. This field defaults to your default organization. Required.

Type

Click a check box to select to view FPOs and/or batches. Required.

Status

Click a checkbox to view the schedules of batches that have a status of pending and/or WIP. Required.

Start Date

Specify whether to include all, one, or a range of start dates for production batches or FPOs.

End Date

Specify whether to include all, one, or a range of end dates for production batches or FPOs.

Batch/FPO

Specify whether to include all, one, or a range of Batch/FPO numbers in the selection criteria. Required.

WIP Warehouse

Specify whether to include all, one or a range of WIP warehouses in the selection criteria.

Product

Specify whether to include all, one or a range of products in the selection criteria. Required.

Formula

Specify whether to include all, one or a range of formulas in the selection criteria.

Version

Specify whether to include all, one or a range of formula versions.

Routing

Specify whether to include all, one or a range of routing in the selection criteria.

Version

Specify whether to include all, one or a range of routing versions in the selection criteria.

Planning Class

Specify whether to include all, one or a range of planning classes in the selection criteria.

Routing Class

Specify whether to include all, one or a range of routing classes in the selection criteria.

Production Schedule Form

The Production Schedule form displays the FPOs and batches which meet the entered criteria. Use the up and down cursor keys to highlight a batch/FPO line. As each line is highlighted, the information at the bottom of the form changes.

Production Schedule - Fields

Type

The unlabeled field on the left side of the dialog box identifies the document as either a firm planned order (F) or a batch (B). You cannot edit this field.

Plant

This field displays the operator organization entered in the previous dialog box. You cannot edit this field.

Batch/Firm Planned Order

The number of the batch or FPO is displayed. You cannot edit this field.

Product

The code for the product on which the batch or FPO is based is displayed. You cannot edit this field.

Start Date

The starting date for the FPO or batch. You cannot edit this field.

End Date

The ending date for the FPO or batch. You cannot edit this field.

The following fields display information linked to the highlighted batch or FPO line at the top part of the form.

Description

A detailed description of the product produced by the batch or FPO of the line you have highlighted. You can not edit this field.

Status

Displays the status of the highlighted batch or FPO. It may be pending or WIP.

Formula

The first field on this line is the code for the formula on which the highlighted batch or FPO is based. The second field is the version of the formula on which the batch or FPO is based. You cannot edit these fields.

Routing

Displays the routing and routing version codes for the formula on which the highlighted batch or FPO is based. You cannot edit these fields.

WIP Warehouse

Displays the items WIP Warehouse along with its associated description.

Printing the Batch Picklist

The Batch Picklist identifies the material that must be picked for production batches. If you allocate your ingredients before releasing (starting) your batches, the Batch Picklist identifies the lots which must be picked and the warehouse locations from which the ingredients must be picked. The ability to use the Batch Picklist as a guide to picking is one of the primary advantages to allocating ingredients before batch release.

Batch Picklist Dialog Box

Use the Batch Picklist Dialog box to specify the batches to include on the picklist, the order in which the data will be sorted, and the printer on which the picklist will be printed.

Printing the Batch Picklist - Procedure

Note: See the *Oracle Applications User's Guide* for detailed information on submitting a report.

To print the Batch Picklist proceed as follows:

1. Navigate to the **Submit Requests** form.
2. Enter the report name. This displays the dialog box for entering parameters.
3. Complete the fields as described in the *Batch Picklist - Parameters* topic, and click **OK**. The **Submit Requests** form is displayed.
4. Complete the fields in the **Submit Requests** form and click **Submit Request**.

Batch Picklist - Parameters

From Batch No

Enter the number of the first batch to be included on the report.

To Batch No

Enter the number of the last batch to be included on the report.

From Start Date

Enter the first start date in the range for which you want to the report. Only batches which start on or after this date will be included.

To Start Date

Enter the last start date in the range for which you want to print the report. Only batches which start on or before this date will be included.

Sort By

Select from the list to sort by Batch No or by Start Date and Batch No.

Batch Picklist Report - Fields

Warehouse

The warehouse in which the ingredient is located.

Location

The location in which the ingredient is located.

Item

The code and description of the ingredient to be picked.

Batch

The number of the batch in which the item is an ingredient.

Seq

The ingredient line number from the batch.

Planned Qty

The planned quantity from the batch in the unit of measure used on the batch.

Planned Qty2

The planned quantity in the item's secondary unit of measure.

Formula Num

The code identifying the formula on which the batch is based.

Version

The code identifying the formula version on which the batch is based.

Planned Start Date

The date on which the batch is planned to begin.

Actual Start Date

The date on which the batch was actually begun.

Lot

The lot which has been allocated to the batch. This is the lot which should be picked.

Sublot

The sublot which has been allocated to the batch. This is the sublot which should be picked. This field is only displayed for sublot controlled items.

Allocated Qty

The quantity of the lot allocated to the batch.

UOM

The item's primary unit of measure.

Allocated Qty2

The quantity of the lot allocated to the batch.

UOM

The item's secondary unit of measure.

Total Alloc

The total quantity of the item allocated to the batch from the warehouse and location, summed across each of the lots.

Printing the Batch Ticket Report

The Batch Ticket report prints one or more batch tickets. It includes information about the formula used, the starting and completion dates, and the items and item quantities.

Batch Ticket Dialog Box

Use the Batch Ticket Parameters box to specify a range of batches or batch dates to include on the Batch Ticket report, the order in which the batches will be sorted, and the printer on which the report will be printed.

Printing the Batch Ticket Report - Procedure

To print the Batch Ticket proceed as follows:

1. Navigate to the **Submit Requests** form.
2. Enter the report name. This displays the dialog box for entering parameters.
3. Complete the fields as described in the *Batch Ticket - Parameters* topic, and click **OK**. The **Submit Requests** form is displayed.
4. Complete the fields in the **Submit Requests** form and click **Submit Request**.

Batch Ticket - Parameters

From Batch No

Enter the number of the first batch to be included on the report.

To Batch No

Enter the number of the last batch to be included on the report.

From Start Date

Enter the first start date in the range for which you want to print the report. Only batches which start on or after this date will be included.

To Start Date

Enter the last start date in the range for which you want to the report. Only batches which start on or before this date will be included.

Sort By

Select from the list to sort by Batch No or by Start Date and Batch No.

Batch Ticket Report - Fields

Batch

The number of the batch, preceded by the code for the organization producing the batch.

Formula

The code for the formula on which the batch is based.

Version

The formula version on which the batch is based.

Planned Start Date

The planned start date of the batch.

Planned Completion Date

The planned completion date of the batch.

Required Completion Date

The required completion date of the batch.

WIP Whse

The warehouse used to cost production activity.

Seq

The product, ingredient, or byproduct line number.

Item

The code for each product, ingredient, or byproduct in the batch.

Description

The description of the product, ingredient, or byproduct.

Planned Qty

The planned quantity of each product, ingredient, or byproduct.

Printing the Production Activity Report

The Production Activity report shows production activity (batches and firm planned orders) scheduled during a specified period of time. Only batches which have a status of Pending (that is, batches which have not yet been released) are displayed.

Production Activity Report Dialog Box

Use the Production Activity Report Parameters box to specify the range of batches or FPOs and the date range for which you want to print production activity. You can also specify the sort order used on the report, and the printer on which the report will print.

Printing the Production Activity Report - Procedure

To print the Production Activity report, proceed as follows:

1. Navigate to the **Submit Requests** form.
2. Enter the report name. This displays the dialog box for entering parameters.
3. Complete the fields as described in the *Production Activity Report - Parameters* topic, and click **OK**. The **Submit Requests** form is displayed.
4. Complete the fields in the **Submit Requests** form and click **Submit Request**.

Production Activity Report - Parameters

From Batch No
Enter the number of the first batch to be included on the report.

To Batch No
Enter the number of the last batch to be included on the report.

From Start Date
Enter the first start date in the range for which you want to print the report. Only batches which start on or after this date will be included.

To Start Date
Enter the last start date in the range for which you want to the report. Only batches which start on or before this date will be included.

Sort By
Select from the list to sort by Batch No or by Start Date and Batch No.

Production Activity Report - Fields

Organization
The ID code for the organization against which you ran the report.

Batch/FPO From

The number of the first batch or FPO that you specified on the dialog box.

To

The number of the last batch or FPO that you specified on the dialog box.

Start Date From

The first date you specified on the dialog box.

To

The last date you specified on the dialog box.

Type

The type of document:

PROD (Batch)

FPO (Firm planned order)

Plant

The code for the plant in which the batch or FPO is scheduled.

Batch/Firm

The number of the batch or FPO.

Formula

The formula on which the batch or FPO is based.

Version

The version of the formula used.

Start Date

The planned start date of the batch or FPO.

End Date

The planned end date of the batch or FPO.

Printing the Batch Yield Variance Report

Use the Batch Yield Variance report to view the actual and calculated yield of a batch. This report shows the differences between the formula specified yields and the batch actual yields, and the variance costs based on the accounting cost of the item. Cost variances are shown for the products and coproducts as well as the batch. The report can be printed for all, one or a range of dates, items and batches.

Printing the Batch Yield Variance Report

Use the Batch Yield Variance Parameters box to specify the range of batches or FPOs and the date range for which you want to print the report. You can also specify the sort order used on the report, and the printer on which the report will print.

Printing the Batch Yield Variance Report - Procedure

To print the Batch Yield Variance report, proceed as follows:

1. Navigate to the **Submit Requests** form.
2. Enter the report name. This displays the dialog box for entering parameters.
3. Complete the fields as described in the *Batch Yield Variance Report - Parameters* topic, and click **OK**. The **Submit Requests** form is displayed.
4. Complete the fields in the **Submit Requests** form and click **Submit Request**.

Batch Yield Variance Report - Parameters

From Batch No

Enter the number of the first batch to be included on the report.

To Batch No

Enter the number of the last batch to be included on the report.

From Start Date

Enter the first start date in the range for which you want to print the report. Only batches which start on or after this date will be included.

To Start Date

Enter the last start date in the range for which you want to the report. Only batches which start on or before this date will be included.

Sort By

Select from the list to sort by Batch No or by Start Date and Batch No.

Batch Yield Variance Report - Fields

Currency

Code for the currency used in the calculation. For example, USD for U.S. dollars.

Item

The ID code of the item produced by the batch.

Description

The description associated to the item ID code.

Accounting

Value

The planned or formula cost of the product. This is the unit cost multiplied by the Accounting Yield quantity.

Yield

The quantity expected to be yielded based on the formula.

Actual

Value

The actual cost of the product. This is the unit cost multiplied by the Actual Yield.

Yield

The quantity actually yielded by the batch.

Quantity Variance

The difference between the Actual Yield and the Accounting Yield.

Value Variance

The difference between the Accounting Value and the Actual Value.

Variance (%)

The Quantity Variance divided by the Accounting Yield, expressed in a percent.

Batch

The batch number.

Formula

The ID code of the formula on which the batch is based.

Version

The formula version number.

Batch Size

The planned quantity of the primary product.

Batch Value Variance

The sum of the Value Variances for all products in the batch.

Total Value Variance

The total of all value variance on the report.

Printing the Material Usage and Substitution Variance Report

he Material Usage and Substitution Variance report can be used to identify batches with unusual usage costs. The report provides a cost comparison and variance of actual costs against the standard usage which should have been incurred as set up for each formula.

The report can be printed for all, one, or a range of dates, items and batches.

Material Usage and Substitution Variance Report

Use the Material Usage and Substitution Variance Parameters box to specify the range of batches or FPOs and the date range for which you want to print the report. You can also specify the sort order used on the report, and the printer on which the report will print.

Printing the Material Usage and Substitution Variance Report - Procedure

To print the Material Usage and Substitution Variance report, proceed as follows:

1. Navigate to the **Submit Requests** form.

2. Enter the report name. This displays the dialog box for entering parameters.

3. Complete the fields as described in the *Material Usage and Substitution Report - Parameters* topic, and click **OK**. The **Submit Requests** form is displayed.

4. Complete the fields in the **Submit Requests** form and click **Submit Request**.

Material Usage and Substitution Variance Report - Parameters

From Batch No

Enter the number of the first batch to be included on the report.

To Batch No

Enter the number of the last batch to be included on the report.

From Start Date

Enter the first start date in the range for which you want to print the report. Only batches which start on or after this date will be included.

To Start Date

Enter the last start date in the range for which you want to the report. Only batches which start on or before this date will be included.

Sort By

Select from the list to sort by Batch No or by Start Date and Batch No.

Material Usage and Substitution Variance Report - Fields

Currency

Code for the currency used in the calculation. For example, USD for U.S. dollars.

Batch

The ID code of the batch.

Formula

The ID code of the formula on which the batch is based.

Version

The version number of the formula on which the batch is based.

Batch Size

Planned quantity of the primary product.

Accounting

Unit Cost

The unit cost of the ingredient.

Quantity UOM

The standard quantity of the ingredient expected to be used. This is the quantity from the formula, scaled based on the batch size.

Actual Usage

The actual quantity used in the batch.

Quantity Variance

The difference between the Actual Usage and the Accounting Quantity.

Variance%

The Quantity Variance divided by the Accounting Quantity, expressed as a product.

Value Variance

The difference between the value of the ingredient actually used and the value expected to be used.

Total Variance

The total of all the value variances.

Total Usage Variance

The total of the value variances from usage variance.

Total Sub Variance

The total of value variances from ingredient substitution.

Appendix

Production Management Navigation Paths

Although your system administrator may have customized your navigator, typical navigation paths are described in the following tables. In some cases, there is more than one way to navigate to a form. These tables provide the most typical default path.

Form	Path
Additional Edit (Batches)	OPM Process Execution> Production Management > Batches > place cursor in Products panel > Special > Additional Edit (You can also access this form from the By-products, Ingredients, Batch Input and Batch Output forms)
Batch By-Products	OPM Process Execution> Production Management > Batches > Byproducts
Batch Ingredients	OPM Process Execution> Production Management > Batches > Ingredients
Batch Input	OPM Process Execution> Production Management > Batch Input
Batch Output	OPM Process Execution> Production Management > Batch Output
Batches	OPM Process Execution> Production Management > Batches
Calculate Theoretcial Yield	OPM Process Executtion> Production Management > place cursor in Products panel > Special > Theoretical Yield
Create Batch/Firm Planned Order	OPM Process Execution> Production Management > Create Batch/FPO
Firm Planned Order	OPM Process Execution> Production Management > Firm Planned Order
Firm planned Order to Batch Conversion	OPM Process Execution> Production Management > Firm Planned Order > Special > FPO to Batch

FPO Byproducts	OPM Process Execution> Production Management > Firm Planned Order > Byproducts
FPO Ingredients	OPM Process Execution > Production Management > Firm Planned Order > Ingredients
Inventory Shortages	OPM Process Execution> Production Management > Batches > Ingredients > Special > Inventory Shortage
Line Allocations	OPM Process Execution> Production Management > Batch Input/Batch Output > Special > Details
Partial Certification	OPM Process Execution> Production Management > Partial Cert
Pick Lots/Locations	OPM Process Execution > Production Management > Batch Input > place cursor on ingredient> Special > Pick Lots/Location
Production Schedule	OPM Process Execution> Production Management > Production Schedule
Reroute	OPM Process Execution> Production Management > Batches or Firm Planned Order > Special > Reroute
Reschedule	OPM Process Execution> Production Management > Batches or Firm Planned Order > Special > Reschedule
Scale Batch	OPM Process Execution> Production Management > Batches .> place cursor on item > Special > Scale Batch (also available from Batch Ingredients, Batch Output and Batch Input screens)
Submit Requests	OPM Process Execution > Production Management >Reports >Run > OK
View Effectivities	OPM Process Execution> Production Management > Batches/FPO

Note: You navigate to the Submit Requests dialog box to print reports.

Production Management Profile Options

During your implementation, you or your system administrator set values for selected profile options to specify how your Production Management application controls access to and processes data. The profile options related to Production Management are listed below.

- PM$ALLOW_CREATE_INPUT
- PM$ALLOW_CREATE_OUTPUT
- PM$AUTO_REL_ALLOC_ONLY
- PM$CHECK_INV_RELEASE
- PM$CHECK_LOT_STATUS
- PM$CHECK_INV_SAVE
- PM_COPY_FM_TEXT
- PM$USE_AUTO_ALLOC
- IC$ALLOW_HORIZON
- IC$ALLOC_METHOD
- IC$ALLOC_TYPE
- IC$LOT_QTY
- IC$SHELF_DAYS
- FM$DEFAULT_RELEASE_TYPE

You might set up these profile options when you set up other applications prior to your Produciton Management implementation. Refer to the other product user's guides for more details on how other products use these profile options.

Your system administrator sets user profile options at one or more of the following levels: Site Application, Responsibility, and User. Use the Personal Profile Options window or view or set your profile options at the user level. You can consult *the Oracle Process Manufacturing Implementation Guide* for a complete description of the profile options listed below. Consult your *Oracle Applications System Administrator's Guide* for a list of profile options common to all Oracle Applications.

Glossary

Allocate

For ingredients, to specify the lots that went (or will go) into a batch, and/or the locations from which the ingredients were drawn. For products, to specify the lots that were yielded by a batch, and/or the locations into which the products were put. Only lot or location-controlled items must be allocated.

Automatic Auto-allocation

A type of allocation in which ingredients are allocated by GEMMS when a batch is saved for the first time, based on certain rules which have been specified. Also known as fully automatic auto-allocation.

Backflushing

The calculation of ingredient consumption from the entry of product yield.   In GEMMS, backflushing also includes the ability to calculate product yield from the entry of ingredient consumption.

Batch

In GEMMS, a document that is used to plan and record a manufacturing event. It captures the consumption of ingredients and the yield of products and by-products.

By-product

An item produced by a formula or batch in addition to the desired product. A by-product differs from a product or coproduct in that you do not plan production to make by-products. In GEMMS, you can only calculate the cost of producing products, not by-products. However, the costs associated with by-products are taken into account in calculating the costs of products in the same formula. Compare with coproduct.

Certifying a Batch

Indicating that a batch has been completed. Certifying a batch indicates that all product quantities have been yielded. When you certify a batch, the pending transactions associated with automatic certification product lines are deleted and replaced with completed transactions.

Completed Transaction

A record which represents an actual change to inventory.

Coproduct

One of several products produced by a formula or batch. The term coproduct is sometimes used when a formula or batch produces more than one product. GEMMS does not distinguish between products and coproducts. Compare with by-product.

Effectivity

A set of parameters that specify under what circumstances a formula can be used. These parameters include date of production, product quantity, and formula use (Production, Planning, or Costing). Effectivity records also link formulas with routings.

Firm Planned Order

A document which represents a plan to manufacture a product. Unlike an MRP-planned order, MRP cannot change or delete firm planned orders.

Formula

The "recipe" upon which production batches are based. A formula consists of products, ingredients, and, optionally, by-products. The formula also specifies the quantities of each item.

Formula Use

The module for which a formula will be used, either Production Management, Costing, or Material Requirements Planning.

Ingredient

An item which is consumed by a batch to yield a product.

Manual Certification

Certifying a product separately from certifying the batch. To perform manual certification, the **Release Type** field on the Additional Edit dialog box must be set to "1" for that product line. You perform the manual certification on the Batch Ouput form.

Manual Release

Releasing an ingredient separately from releasing the batch. To perform manual release, the **Release Type** field on the Additional Edit dialog box must be set to "1" for that ingredient line. You perform the manual release on the Batch Input form.

Partial Certification

Certifying less than the full quantity of a product. This is often done with batches which run a long time and yield product a bit at a time. To perform partial certification, the **Release Type** field on the Additional Edit dialog box must be set to "1" or "2" for that product line. You perform the partial certification on the Partial Certification dialog box.

Partial Release

Releasing less than the full quantity of an ingredient. This is often done with batches which run for a long time and consume ingredients a bit at a time. To manually perform partial release, the **Release Type** field on the Additional Edit dialog box must be set to "1" for that ingredient line. You perform the partial release on the Batch Input form. To hav ingredient consumption backflushed by partial certification, the Release Type must be set to 2 (Incremental).

Pending Transaction

A record which represents an anticipated or future change to inventory.

Phantoms

Intermediate items in a formula that do not exist by themselves, and generally are not tracked in inventory, but their ingredients are. A phantom is made only during the production of another product and may also be known as a **transient subassembly** or a **blowthrough**.

Product

An item which is produced by a batch. Compare with by-product.

Releasing a Batch

Indicating that a batch has been started. Releasing a batch indicates that ingredient quantities have been consumed. When you release a batch, the pending transactions associated with automatic release ingredient lines are deleted and replaced with completed transactions.

Scaling

The proportional increase or decrease of product, by-product, and ingredient quantities in a formula or batch.

Single-step Function

A function that only impacts a single step in a batch, and the batch lines associated with that step. Examples of single-step functions are releasing, certifying, and rescheduling steps.

Theoretical Yield Calculation

A calculation that calculates product quantities yielded by a formula or batch based on ingredient quantities and a specified yield percentage.

Turn on POC

For the user's current organization, the POC Ind on the Organization Code form is set to 1. This makes the Process Operations Control module functional, and means that resource usage data will be automatically collected for batches to which routings are associated and that simultaneous multi-user batch access is functional.

Whole Batch Functions

A function that has the potential to impact the batch as a whole. Examples of whole-batch functions are releasing, certifying, rescheduling, and partial certifying a batch.

User-initiated Auto-allocation

A type of allocation in which ingredients are allocated by GEMMS when the user requests allocation, based on certain rules which have been specified. This differs from automatic auto-allocation in that user-initiated auto-allocation is performed only when the user requests it, not automatically upon saving a batch.

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