New Item Requests in Oracle PLM/Advance Product Catalog

Presenter: Bob Barnett
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Planning the Implementation of Oracle PLM/Advance Product Catalog

1.0 Executive Overview

Oracle Product Lifecycle Management (PLM) provides "bionic" item master functionality to the Oracle E-Business Suite (EBS). Traditional EBS users and implementors will greatly benefit from the use of Oracle PLM for a variety of reasons and for users in a variety of industries. The objective of this paper is to analyze at lower level than the user guides and implementation manuals, what benefits and use can be made of Oracle PLM "New Item Requests" (NIRs) functionality to the Oracle EBS implementation as well as any planned 11.5.10 or greater anticipated upgrades for current EBS users. This paper is intended for Oracle EBS implementation project managers, functional leads, conversion leads, and users of Oracle Inventory Management, Bills of Material, and Engineering modules. It might get granular in some places but it is to support the use of PLM with any 11.5.10 or greater EBS implementation.

2.0 Introduction

Oracle PLM "New Item Requests" (NIRs) is made up of several Oracle products and has been called several names as its functionality has grown greatly over the past few years. Implementing PLM is an option in EBS projects that will benefit anyone buying, selling, building, shipping, making, and/or configuring things in the Oracle EBS. All Oracle EBS users can use this HTML based application to store, manage, change, and report their business process area's information on specific items/parts. This is not just an engineering tool. In fact, the Product Lifecycle Management business process is a cradle to grave span of an item/part. It includes collecting information or launching the search for information that causes a new product. This can be driven through any source in a company. Many users of PLM don't even have an engineering department. They might have other departments involved in their company's product lifecycle like cost management, product management, repair, shipping, and external customer and supplier engineering departments.

This paper helps give the project implementation planner some help deciding how to use the PLM module to help make the implementation a success!

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3.0 Getting Started with PLM (Patches and Family Packs)

Before you can dive into the software, the user guide, and the implementation guide that Oracle provides with the software, let's get you a little learning curve.

Since R12 is fresh released as of the writing of this white paper, you'll have to wait for a second edition of this white paper as the author explores R12 in an implementation this year.

EBS version	Family Pack	Current rollup available
11.5.9	B	You can use Advance Product Catalog in 11.5.9
11.5.10	E (latest) (C was released for 11.5.10 but has since been improved with Family Pack E)	Rollup 13

My experience with 11.5.10 PLM has been to keep up with the rollup patches. Oracle has been pretty regular in delivering rollup patches for PLM that fix bugs that have been reported in SRs in between each rollup.

You must be prepared as with any other patch, to test it with all identified test scripts created for PLM throughout the project.

4.0 New Item Request Business Reasoning

Laying out scope at a high level will greatly add to the success of your project. You need a general understanding of what Oracle PLM New Item Requests (NIRs) will accomplish for you. NIRs are far more complicated by choice than manually creating items in your item master via five other methods: Old fashioned Inventory Module, PLM Create Production Items or PLM Create Engineering Items, Web ADI, Direct Oracle Item Import API coding and the PLM Product Workbench. Oracle E-Business Suite (EBS) Inventory Management module users will understand the first method and the Item Import APIs through customized interface programming (often times used for conversion).

Oracle PLM, Engineering, and Inventory modules have the ability to store items as "Engineering Items". This separates the item from being available for the rest of the EBS while the item is still in a "Pre-Production or Release" status. This is accomplished via a Yes or No Operational attribute in the mtl_system_item table for the specific item.

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NIRs give you the ability to create one engineering item upon successful "implementation" of the specific NIR. The item, after going through the NIR process, will become a new item in the item master organization as an engineering item. There are two other typical steps to introduce the item to the rest of the item master and product introduction. After you implement an item through an NIR, you create an ECO to document and approve the item with a new bill of material (BOM), add the item to existing BOMs (models, option classes, or standard bills), or other types of functionality offered in the engineering module using other change documents. Engineering Change Orders, Engineering Change Requests, Item/Product Issues, Item/Product Ideas are all types of change categories enabled for use in Oracle PLM.

New Item Requests are useful in companies that have Engineer to Order processes. NIRs are useful for companies that use the Oracle Configurator product. ETO processes involve working an item through a variety of business processes to add information to a request until the item is ready to become an item for use in the item master. Why? NIRs can be built to start the process down the right track but eliminate duplicate NIRs by differentiating new item requests with very specific attribute collection workflows to all the business areas using Oracle EBS. Oracle Configurator users need a process to build new product offerings into existing PTO, ATO, and Option Class structures. Why NIRs? NIRs give the Configurator user the ability to gather all the information they need to change PTO/ATO and Option class bills and republish models with the new product offerings that resulted after the NIR was implemented. NIRs are strictly for items that will be created in the mtl_system_items table. The end result is going to be a unique part number that will be available for use specific to the needs of the company. It is not used with the idea that the company should freely allow anyone to create NIRs.

Users of Oracle Configurator benefit from starting a customer request for a new product offering by leaving the Configurator environment and entering the PLM environment to start a NIR from the exact type of item they will require. This does not involve anything written directly into the Configurator models themselves.

5.0 Basic New Item Request Type Terminology

This section navigates the body of a PLM NIR and where you define the behavior of a NIR type. This is not typically the first stage of definition of the NIR. If the PLM user has done some previous configuration to the change management area then this section would be your first step to defining a new NIR type.

A **New Item Request (NIR)** is a workflow empowered electronic document that allows the Oracle PLM/EBS user to request that a new part number with a variety of information be created for use in Oracle EBS. A NIR is always linked to one and only one potential item. It has the ability to have its own attribute values and other information described below.

A **New Item Request Type** is a template to how a NIR will be structured, what information will be contained, what flow of construction, review, and approvals will occur through its life from cradle to grave (implementation or cancellation).
The PLM **Setup Workbench** is the **Item Catalog Administration (ICA)**. This is the area where you set all the rules and/or security for the PLM Item Catalog. Most people call it the "Setup Workbench" because the menu navigation calls it that. The form itself as you see in screen shots below is labeled "Item Catalog Administration".

An NIR is not an ECO (Engineering Change Order). It is defined in the same basic area of PLM but has a significantly different purpose than the functionality offered for ECOs in the Oracle Engineering and PLM.

Below you will see your first navigation box. If you are familiar with Oracle Applications environment, then the top line of the box is the necessary Oracle Responsibility (example below: Development Manager) that you need to navigate for a menu. The bottom line in the box is the navigation path within the responsibility/menu (example: go to Setup in Development Manager, then go to the Setup Workbench within the Setup submenu. When you arrive in the Setup Workbench form, click on the Change Management TAB.

6.0 Quick Tour of the administration of New Item Requests Types

Development Manager Setup>Setup Workbench>Change Management TAB>

You must click on the New Item Request (NIR) Categories Select to create NIR Types.

After you click the NIR type, you will see the below screen shot.

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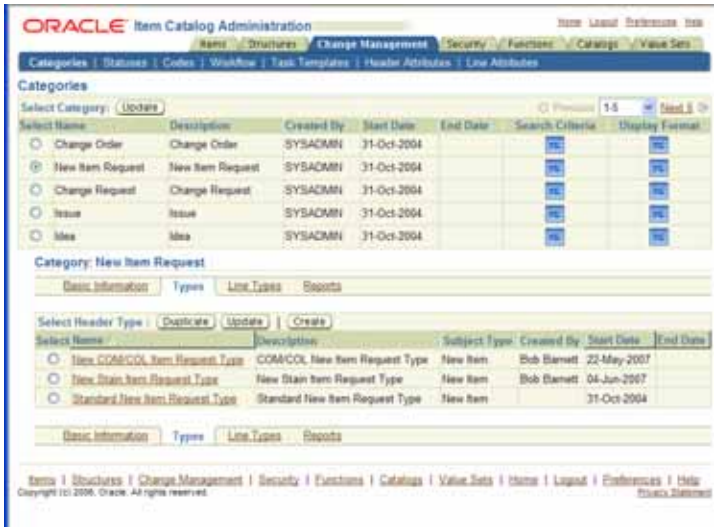
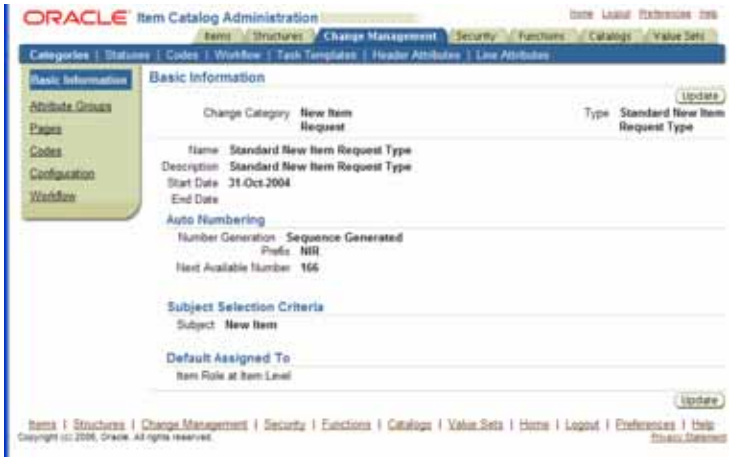
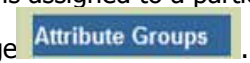
Click on the link Types to see previously defined NIR Change Category Types.

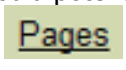


There are three types in the screen shot above. One of those is the "Standard New Item Request Type". This came with the system. Click on the link for this type and you will see the definition screen shot below.



On the left side of the screen, you can see the six pages of definition for the NIR Change type, "Standard New Item Request Type". By clicking each one of these page links, you will be able to see and define how this NIR will behave when it is assigned to a particular Item Catalog Category (ICC). Click on the link for Attribute Groups page 

. At this point, you are only tying the previously defined "Header Attribute" groups to the NIR Change Category type. See below

Above you can see that for a NIR Change type you can predefine specific attributes both at the header level and the line level for a NIR document. These attributes stay within the change document and are searchable. You could potentially write code to react to the values of these attributes. Click on the "Pages" page 

just below the Attribute Groups page that you just clicked prior.

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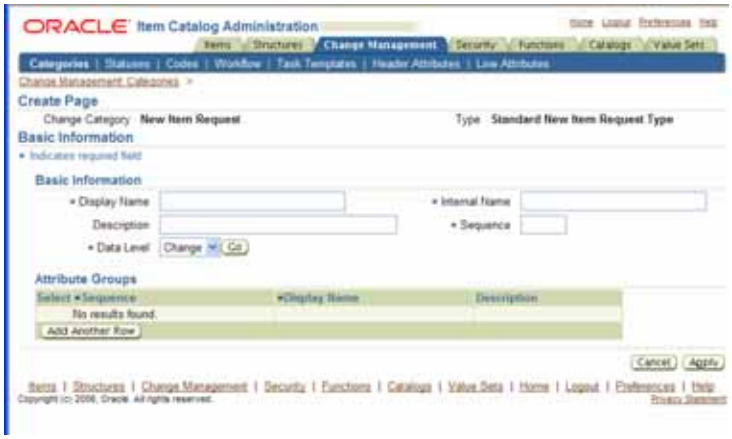
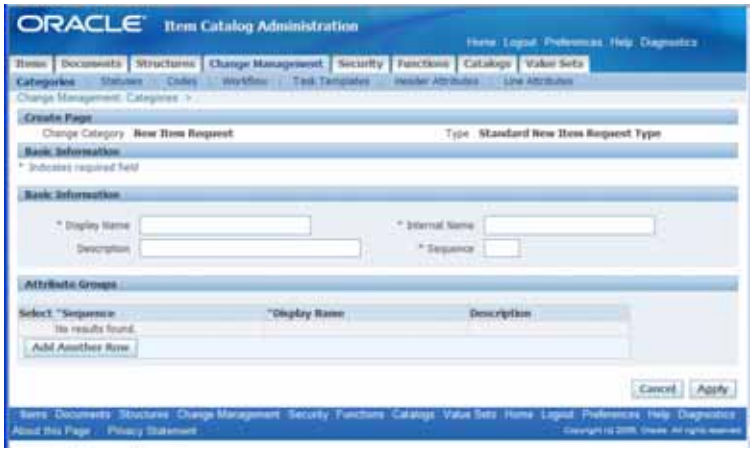
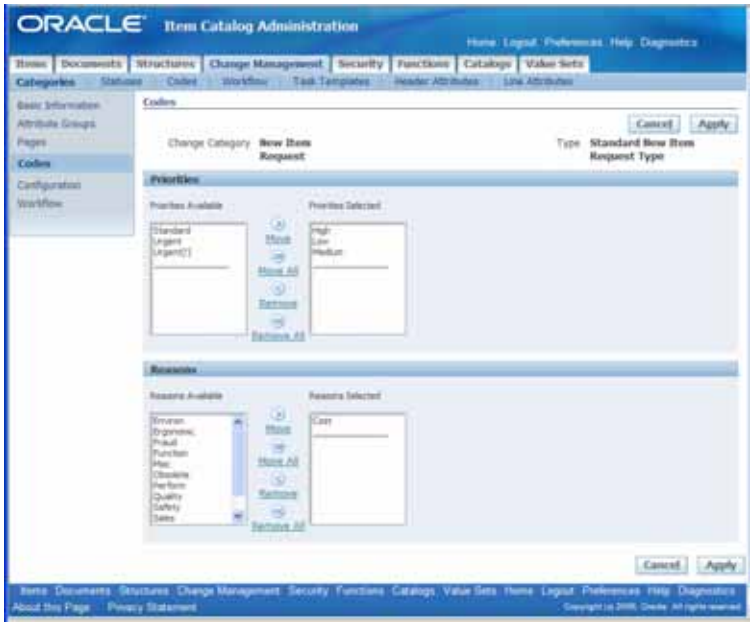
The pages are your way of displaying and editing the attribute groups that you tied to the NIR Change Category type. Pages defined are specific to the Change Category type. Attribute Groups are potentially shared across all change categories and change category types.





Pages can have multiple attribute groups within them.

Click the "Codes" page. Codes are used to give your specifically defined Change Category type a specific list of Priorities (predefined) and Reasons (predefined). You can use all the Priorities and Reasons that have been predefined or only a subset. When a NIR of this defined type is created, these priorities and reasons will be the only ones that the NIR creator can use. Below, the Item Catalog Administrator allowed all available "Priorities" to be used in the NIR Type defined. They can do the same thing with the "Reasons" or just use one of the four available on the left.

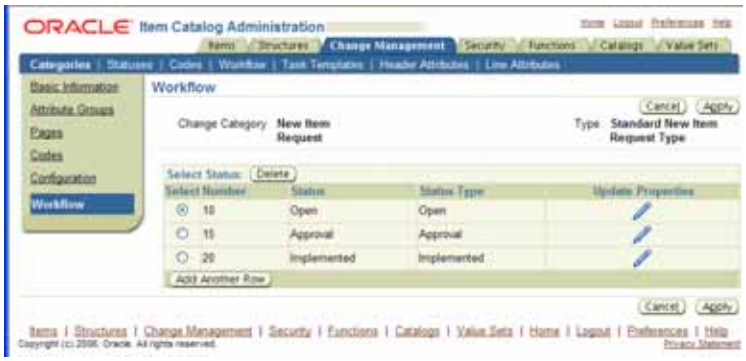


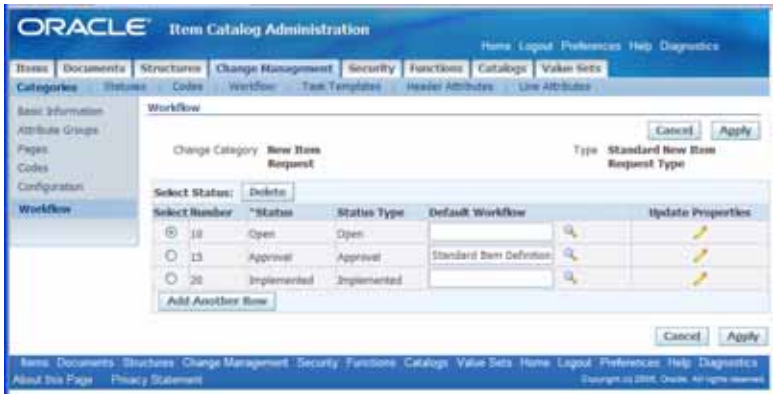
Click the "Configuration" page. Configuration page gives the Item Catalog Administrator (ICA) the ability to allow specific Sections and Primary Attributes to contain within the NIR. As with the "Codes" page, the ICA can choose all or a subset of both entities to contain in this particular NIR Change type. But the difference is that "Codes" can be created. Sections and Primary Attributes

cannot be created except by Oracle or customization efforts. Technically, the Header Attribute functionality gives the ICA the ability to customize the addition of information to any change type in Oracle PLM.

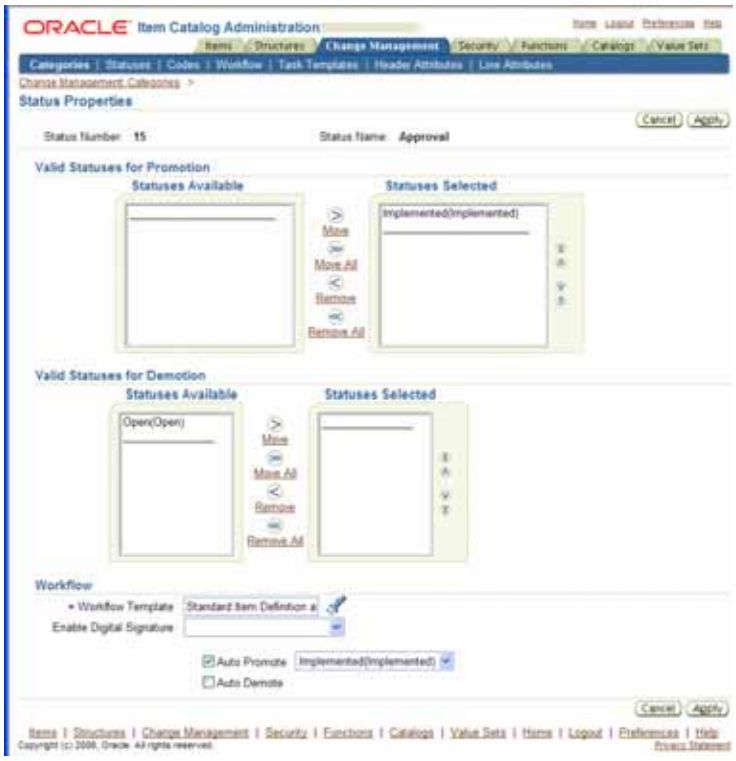
Click the "Workflow" page. The "Workflow" page is the "road map" for the approval and implementation process for any particular change category type. Though it says "Workflow", it should not be confused with the "Workflow Templates" that will be discussed later in this document.

By clicking on the Update Properties pencil icon to the right side of the screen shot below, you can decide what type of activity with the Oracle Workflow product will happen.


ORACLE Item Catalog Administration
Items | Structures | Change Management | Security | Functions | Catalogs | Value Sets
Categories | Statuses | Codes | Workflow | Task Templates | Header Attributes | Line Attributes
Basic Information
Attribute Groups
Pages
Codes
Configuration
Workflow
Workflow
Cancel Apply
Change Category New Item Request
Type Standard New Item Request Type
Select Status: Delete
Select Number | Status | Status Type | Update Properties
10 Open Open
15 Approval Approval
20 Implemented Implemented
Add Another Row
Cancel Apply
Items | Structures | Change Management | Security | Functions | Catalogs | Value Sets | Home | Logout | Preferences | Help
Privacy Statement

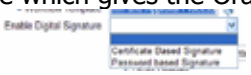

ORACLE Item Catalog Administration
Home Logout Preferences Help Diagnostics
Items | Documents | Structures | Change Management | Security | Functions | Catalogs | Value Sets
Categories | Statuses | Codes | Workflow | Task Templates | Header Attributes | Line Attributes
Basic Information
Attribute Groups
Pages
Codes
Configuration
Workflow
Workflow
Cancel Apply
Change Category New Item Request
Type Standard New Item Request Type
Select Status: Delete
Select Number | *Status | Status Type | Default Workflow | Update Properties
10 Open Open
15 Approval Approval Standard Item Definition
20 Implemented Implemented
Add Another Row
Cancel Apply
Items | Documents | Structures | Change Management | Security | Functions | Catalogs | Value Sets | Home | Logout | Preferences | Help | Diagnostics
About this Page | Privacy Statement

Click the second pencil icon next to the number 15 Approval Status.



Every step in the workflow of a change category type can be defined by name/status in a step by step logical business flow order. You can then go into each name/step/status and decide how you will allow the movement from one status to another. As you see above, the middle status of "Approval" allows promotion to the next status of Implemented. There is a "status" of "Open" in the workflow which is the first status/step in the workflow of the change category type. However, the ICA has chosen to not allow a "Demotion" back to Open status. Therefore, once this NIR type is started, you cannot demote it back to the "Open" status.

Below the Promotion and Demotion boxes, there is a box called Workflow Template. This maps to a predefined workflow template that can be tied directly to a flow of people and roles that will review and approve the "Workflow" status. Try to distinguish early on the difference in where each are defined. Workflow templates are predefined before they can be used in any "Workflow" for a change category type. There can be some confusion on navigation to the definition of the "Workflow Templates" but "Templates" can be reused and "Change Category Type Workflows" can't literally.

The ICA chose "Standard Item Definition and Approval Process" workflow template to use during this status of the change category type's workflow. The ICA did not choose to Enable Digital Signature which gives the Oracle PLM system the capability of ensuring that the user who must approve 

and prove it by either a security certificate or using their user name and password to prove their review and approval.

The ICA also chose to Auto Promote to the Implemented status once the Workflow Template has successfully completed. This saves the time of manually promoting something which has been approved. From the screen shot you can also see that you can Auto Demote if a workflow template goes in the opposite direction and demotion is allowed.

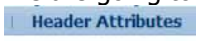
The above information was a basic navigation to a very simple NIR change type. Further into this document, there will be two more major areas discussed: Navigation of the predefined elements that define the NIR's behavior and how to apply and create the NIR change type to an ICC after it is defined.

7.0 Create a NIR Type

We are going to simply duplicate an existing NIR type. Then tweak it to what is necessary for demonstration over in the item catalog on a new item.

Development Manager Setup>Setup Workbench>Change Management TAB>

First, we will create a new attribute group for the NIR so that we can tie it to the NIR when appropriate.

We are going to work this in the standard Oracle provided R12 Vision instance. Click the 

on the blue bar. You will see that there are far more attribute groups that came with the R12 Vision instance than previous 11.5.10 version of the instances. You will not see any attribute groups in a vanilla fresh install of Oracle PLM.

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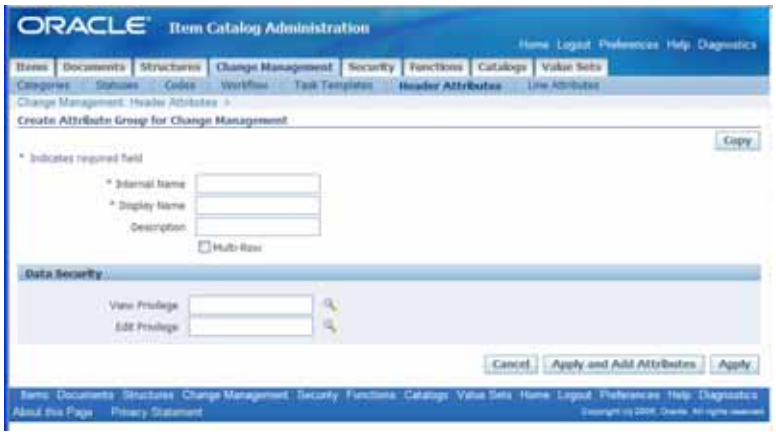
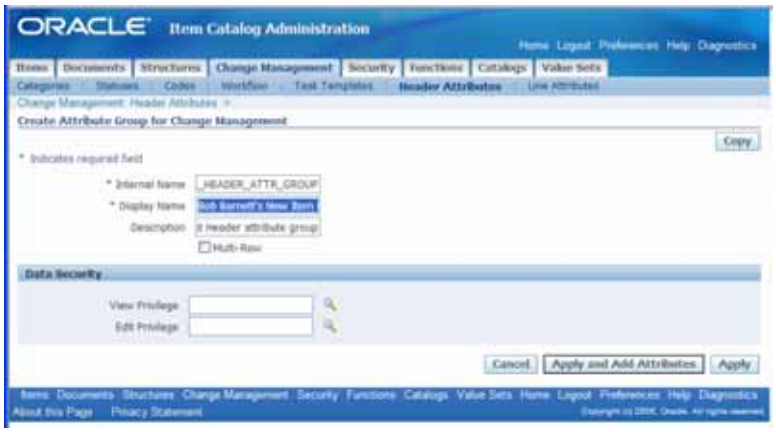
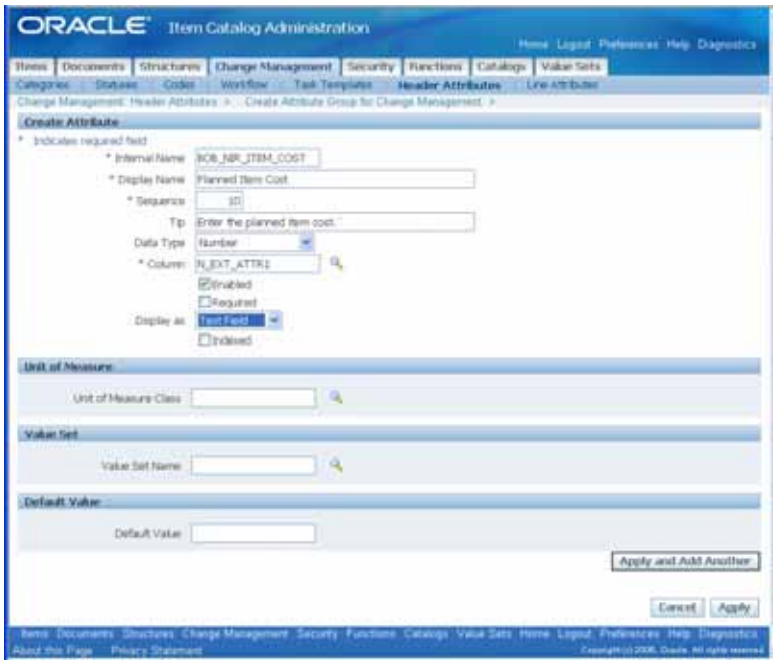
Click the Create button in the upper right hand of the screen shown above.



Enter enough relevant information into the fields to create the header of the attribute group.

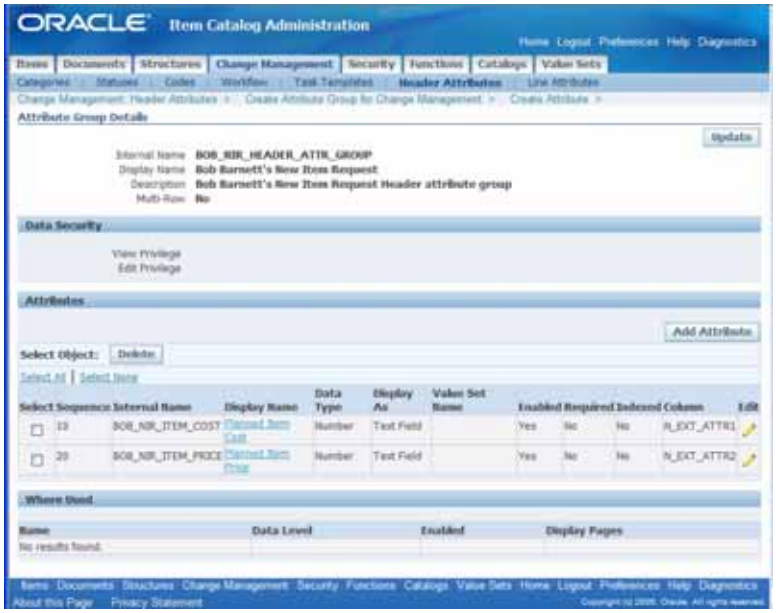

ORACLE
Item Catalog Administration
Home Logout Preferences Help Diagnostics
Items
Documents
Structures
Change Management
Security
Functions
Catalogs
Value Sets
Categories
Statuses
Codes
Workflow
Task Templates
Header Attributes
Line Attributes
Change Management Header Attributes >
Create Attribute Group for Change Management
Copy
* Indicates required field
* Internal Name
_HEADER_ATTR_GROUP
* Display Name
Bob Barrett's New Item
Description
a header attribute group
Multi-Row
Data Security
View Privilege
Edit Privilege
Cancel
Apply and Add Attributes
Apply
Items Documents Structures Change Management Security Functions Catalogs Value Sets Home Logout Preferences Help Diagnostics
About this Page
Privacy Statement

Click the Apply and Add Attributes button. Enter enough attribute information to make an attribute then click the Apply and Add Another button. See the shots directly below.

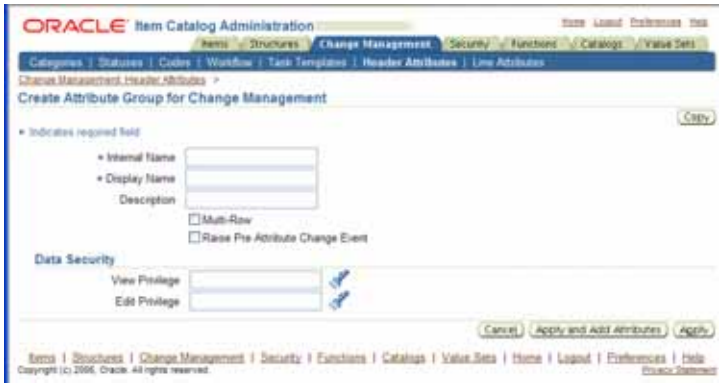


When in the Column field, you will be prompted to choose from a LOV as shown directly below. This will depend on the value in the Data Type field.

When you are finished adding attributes to the group click the apply button.



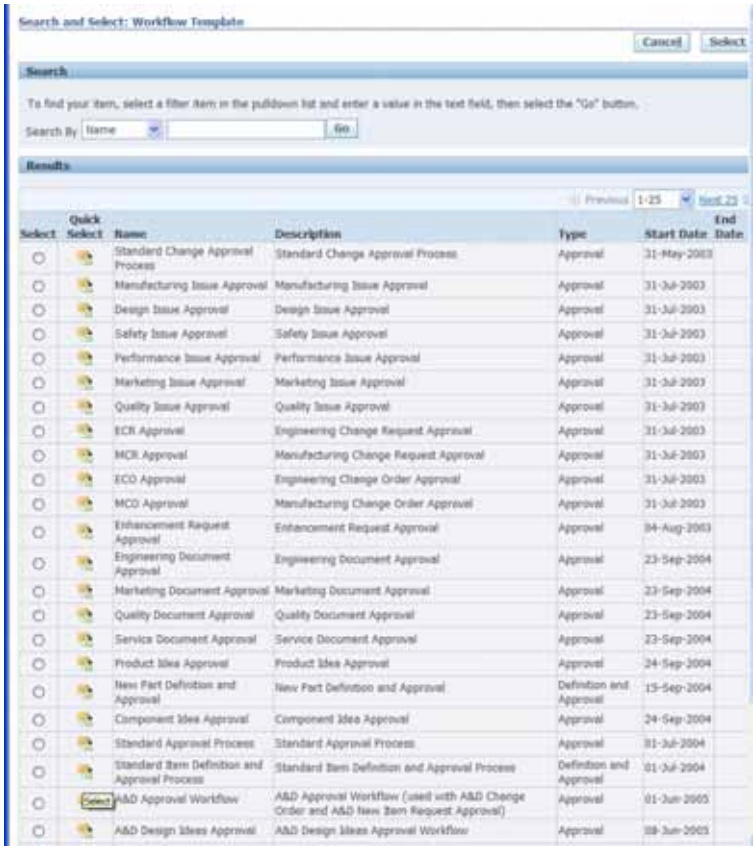
NOTE: Security is not controlled by page but is controlled at the defined Attribute Group itself. This is the same way as User Defined Attribute Groups for items are controlled except by a different type of privilege.



NOTE Cont'd: You can create more privileges if you need to be much more specific. Directions for creating new change privileges are contained within the Oracle PLM Implementation Guide or from a friendly consultant.

We will also create a workflow template for the NIR Type in advance so that it can be added at the end of this section.

Below is a list of some of the many workflow templates available in the R12 Vision instance.



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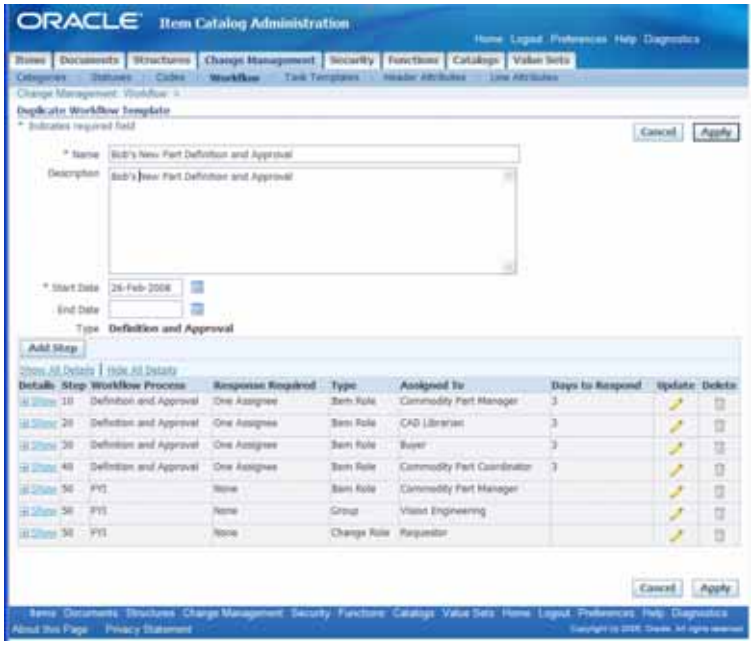
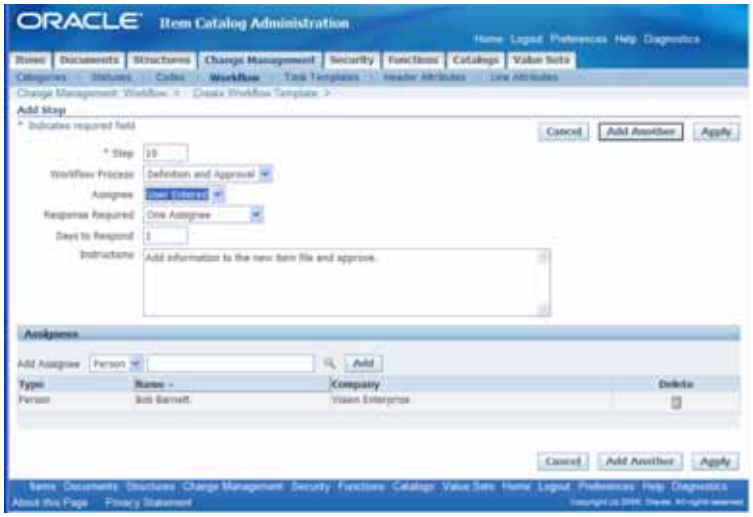
You can make a Workflow template as complicated as you need to route it to whoever you need it routed. See below.



For purposes of simplicity, below is how I am setting up this workflow template. But you can see from above how this new item can be worked by 4 different people then routed to many others after it has had information put on it.



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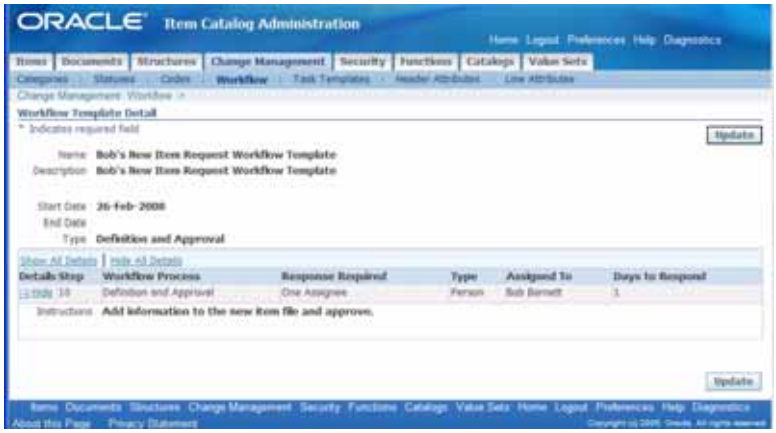
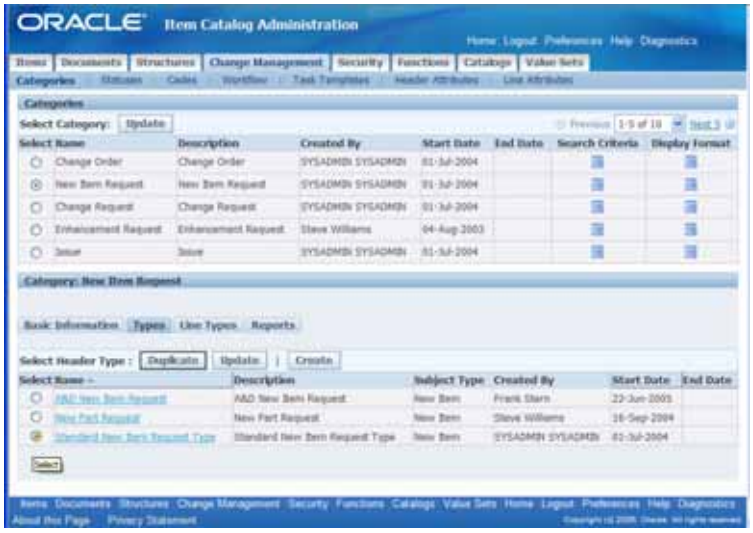
Fill out the information like above then click the Apply button. Then click Apply button again.

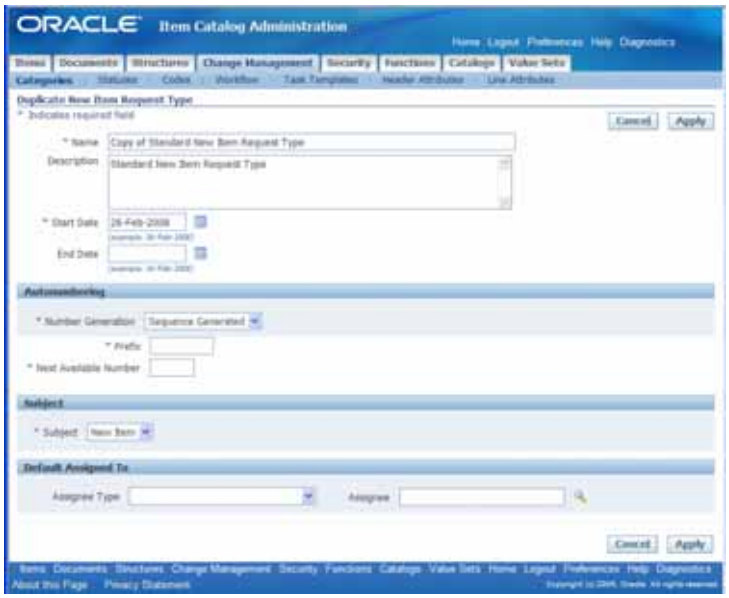


Now start creating the NIR type!

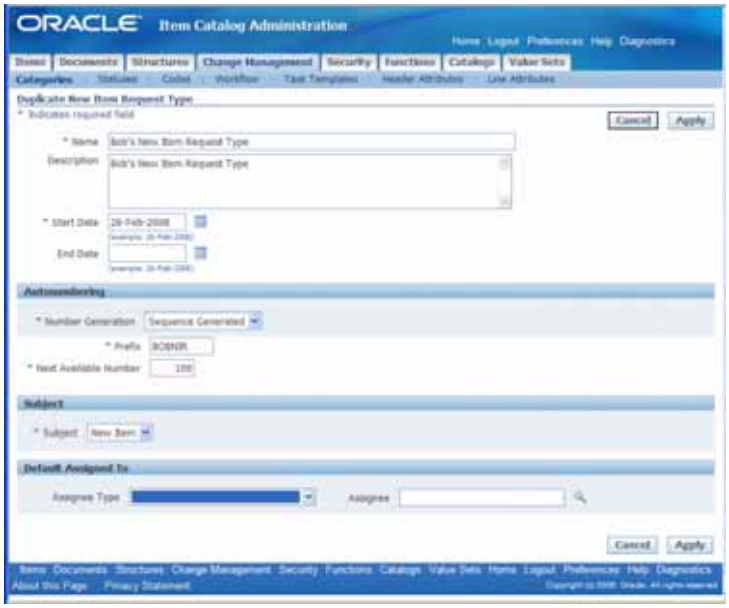
From the Change Management Tab, select the Standard New Item Request Type and click the Duplicate button.



You will notice below that the duplicate button defaulted a name in the first field. You are free to change the name if you choose (I recommend this).



Below, I changed the NIR type name to something more appealable to the author. See below screen shot for details.

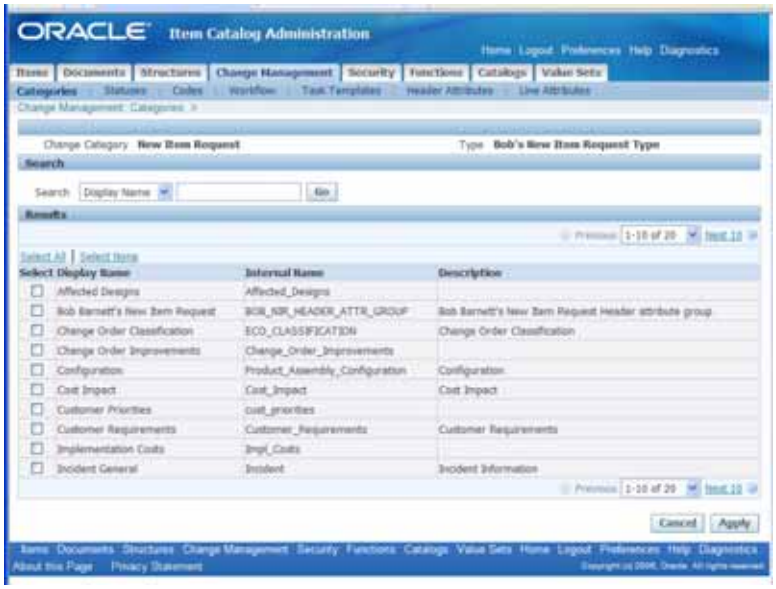


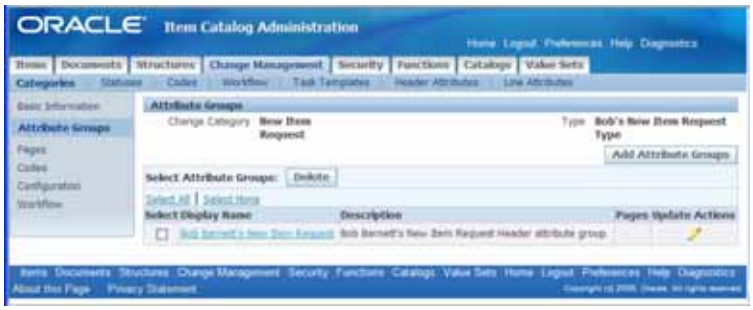
Click the apply button.

Now, we will add the earlier defined attribute group and change some settings on this new NIR type.

Click the Attribute Groups page link. Then click the Add Attribute Groups button.

Choose the attribute group from list and click Apply button.





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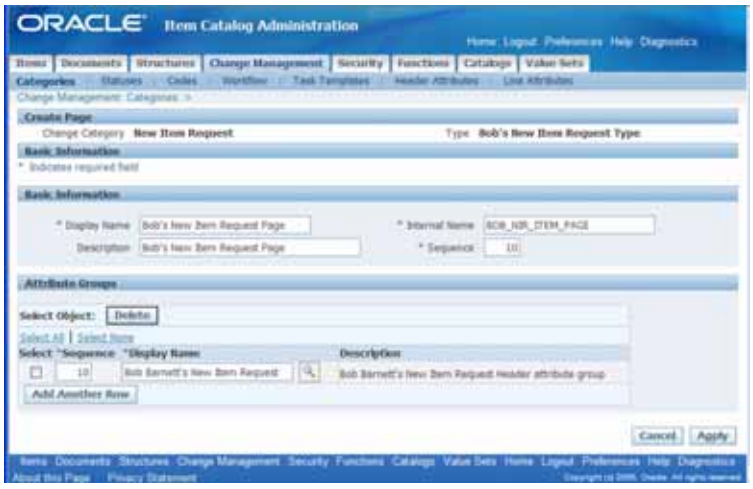
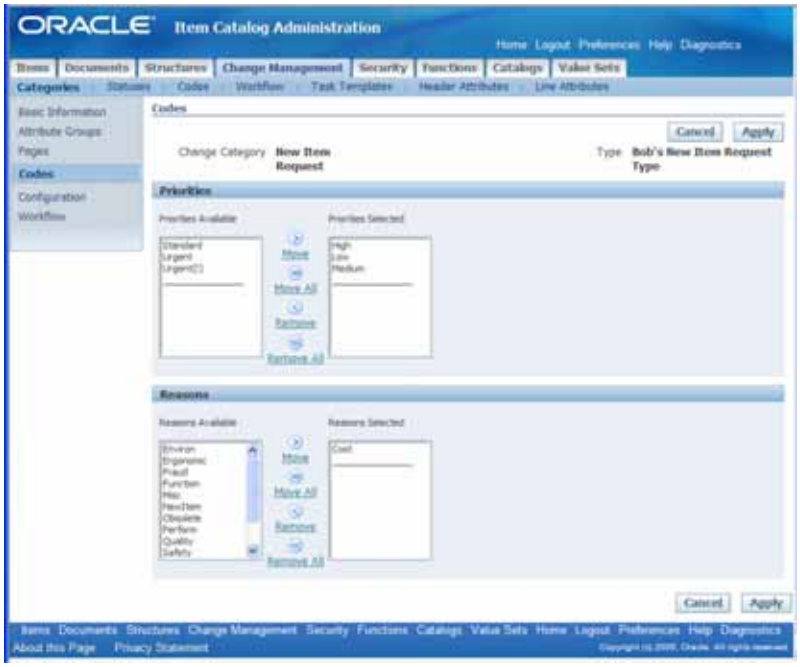
Click the Pages link.

Click the Create Page button.

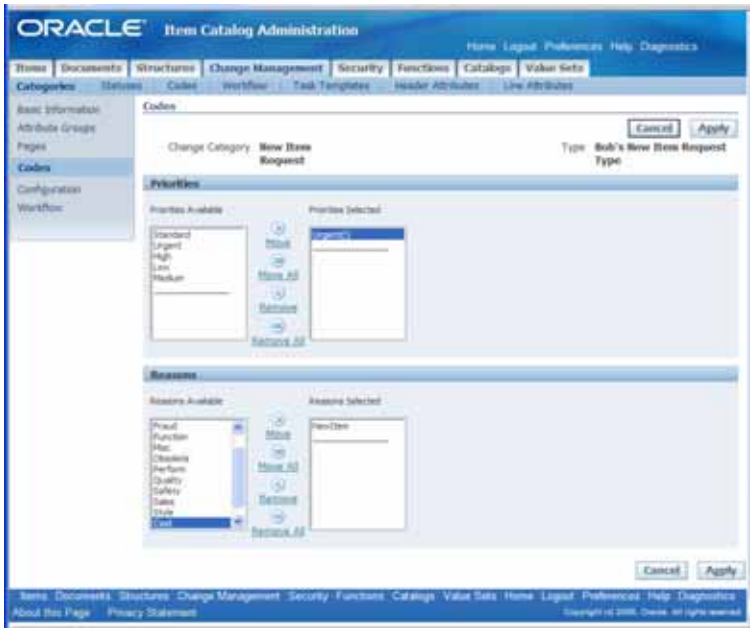


Click the apply button.

Click the Codes page.



Change the codes to just Urgent for priorities and to the New Item Reason. See Below.



Next, we will add all the configuration options as desired.

Click Apply. Next click the Workflow page. Then update properties on the Approval phase.

Add a workflow template to the Approval Status by clicking the

button under the Workflows section at the bottom of the screen shot above.

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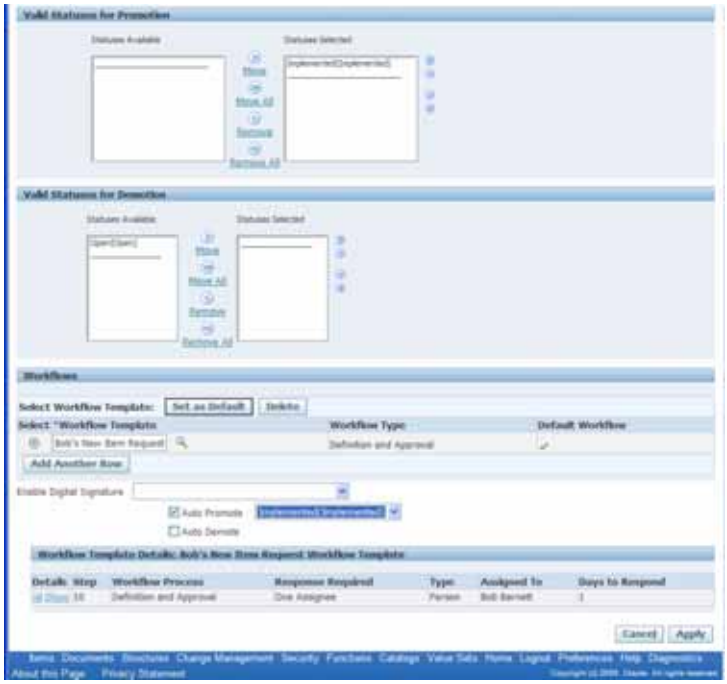
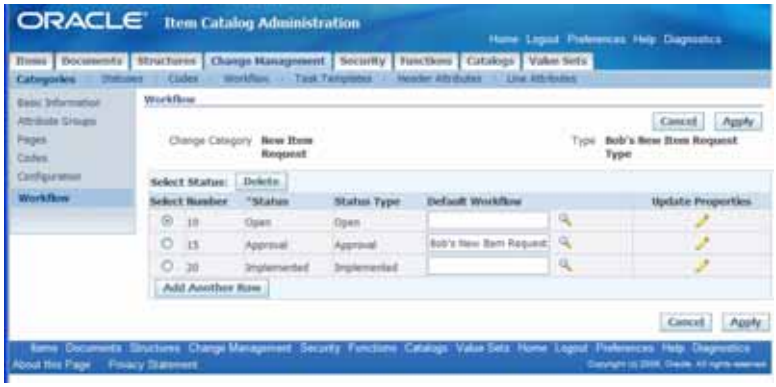


See directly above. Add the workflow template created earlier. Then click the AutoPromote flag and select Implemented from the drop down LOVs. Click Apply button.

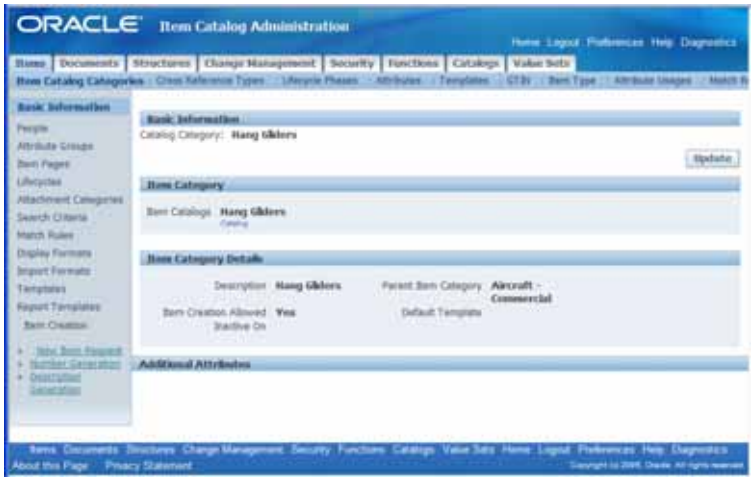


8.0 Add NIR Type to Item Catalog

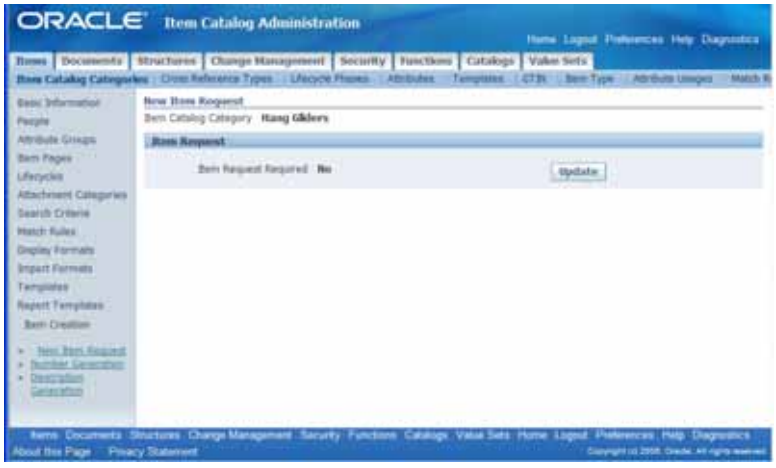
We will now take the new created NIR type and add it to an Item Catalog Category as the only way to define new items in the ICC.

Development Manager Setup>Setup Workbench>Items TAB>

Hang gliders Item Catalog Category was created to demonstrate the NIR.



To force or tie a NIR to an ICC, you must click on the New Item Request link/page on the pages side.



Click the Update button.

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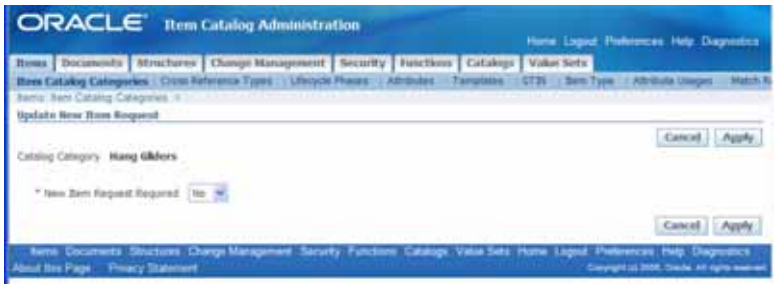
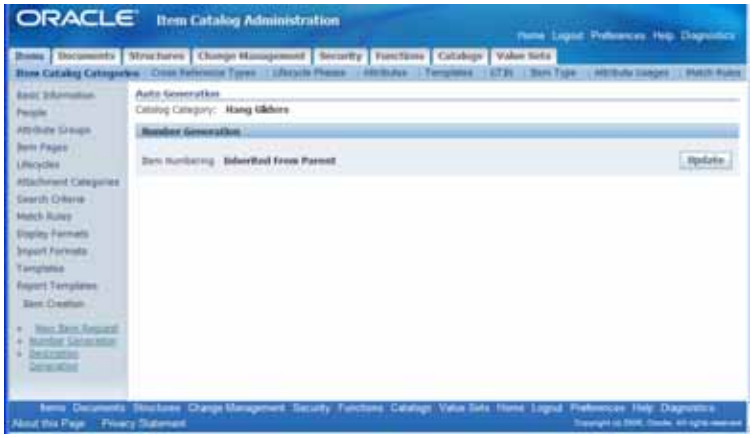


Change the New Item Request Required value to Yes from LOV box. The form will refresh and then you must choose the NIR type we defined earlier. Then click Apply.

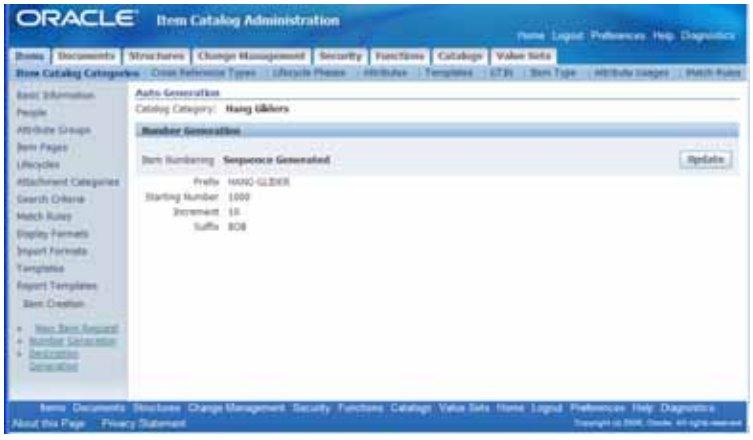
You can potentially associate attribute groups to workflows by editing the Associate Attribute Groups mapped to the Workflow Template.

In addition, but not necessarily part of the NIR process, is the ability to develop your own part numbering for the ICC. Click Numbering Generation page.



Click the Update button. Select Sequence Generated then click GO button.

Fill out as shown above and click the Apply button.



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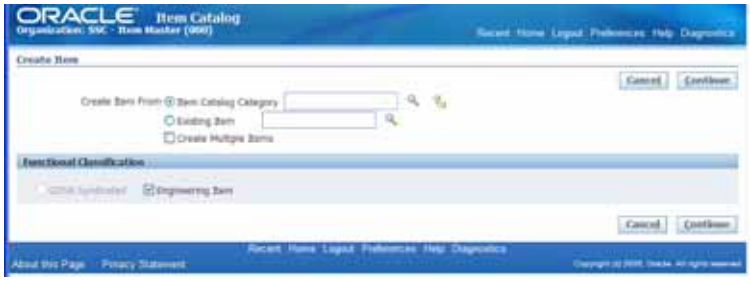
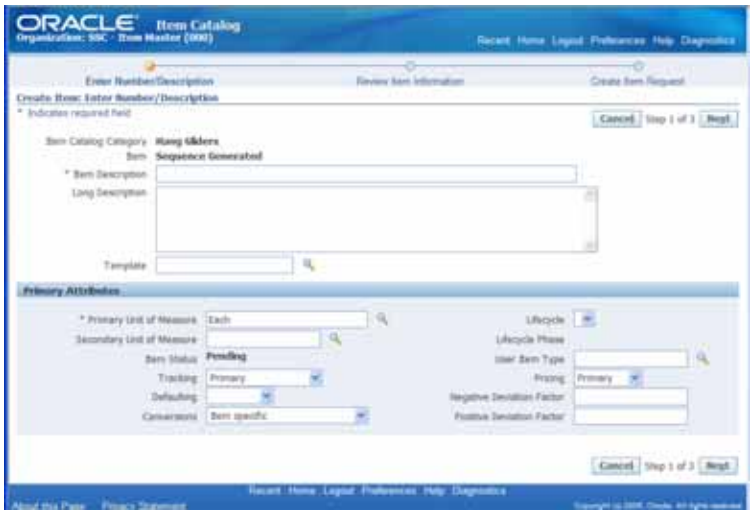
9.0 Create a New Item

Development Manager Item Catalog>Create Engineering Items>Hang Gliders



Insert the ICC, Hang Glider, into the Item Catalog Category field and click Tab key on keyboard. Click Continue button.



Fill out what is necessary then click the Next button.

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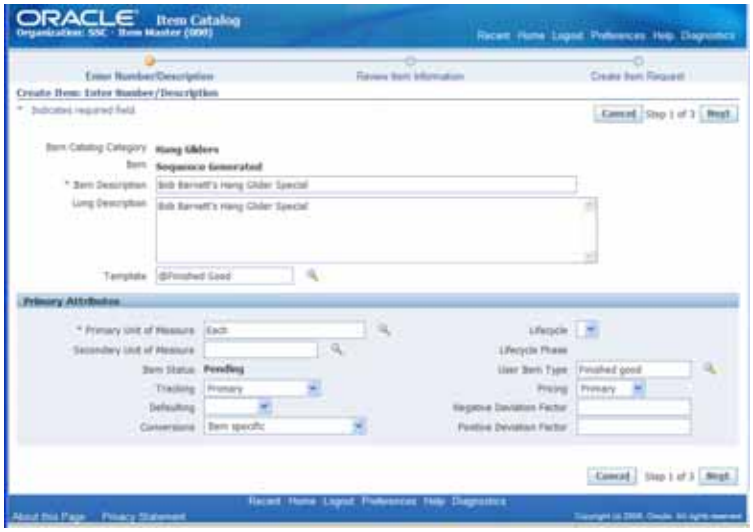

New Item Request workflow seen in the next screen shot.

You can navigate to the tabs in the screen shot above to add anything to this NIR that is necessary. Some people choose to add an initial engineering drawing or an attachment of some sort to the NIR so that all that are authorize can see it.When finished click the Next button.

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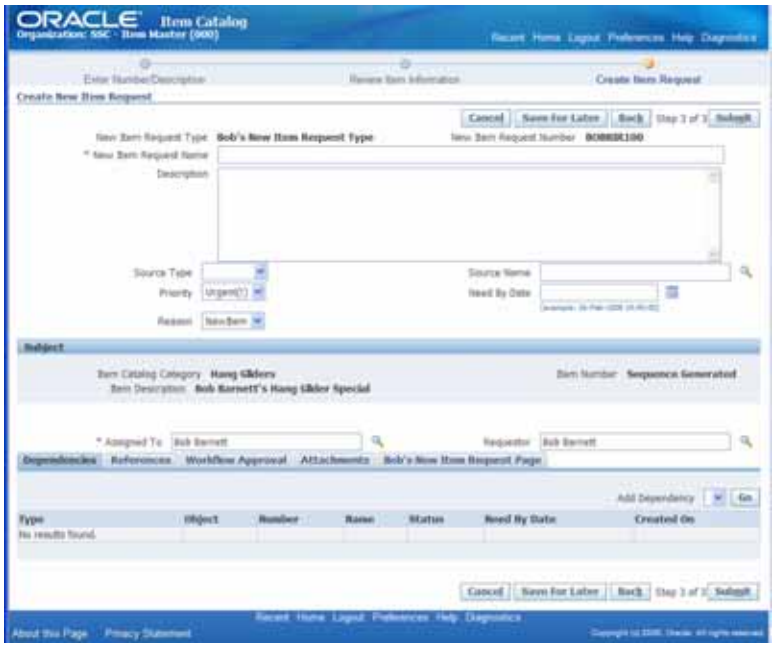
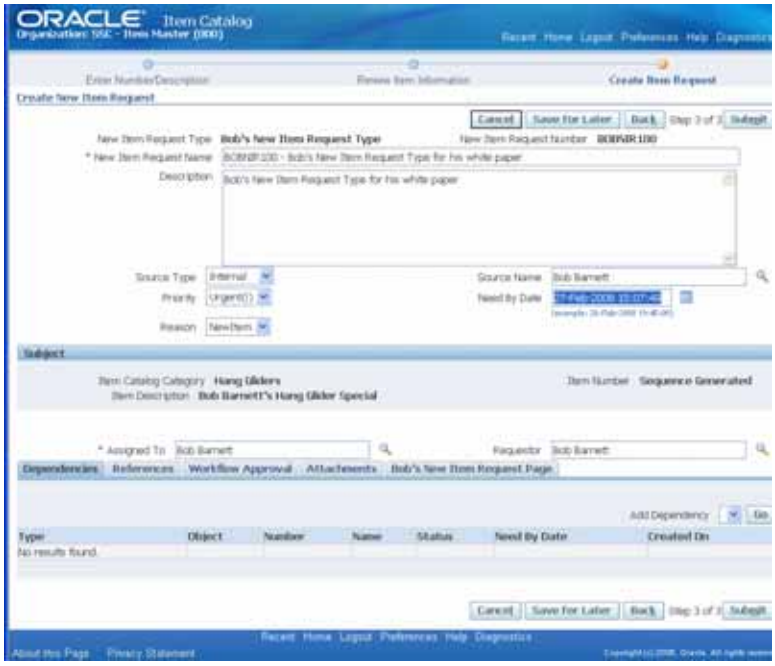
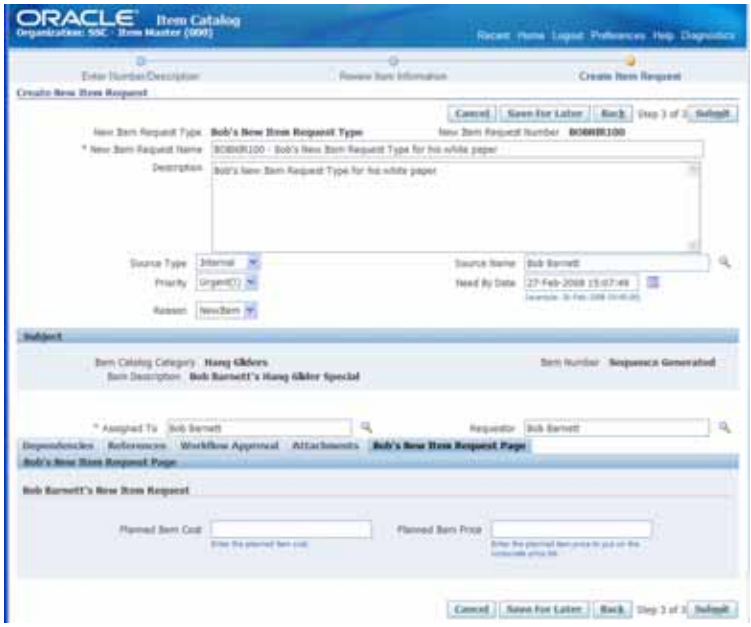


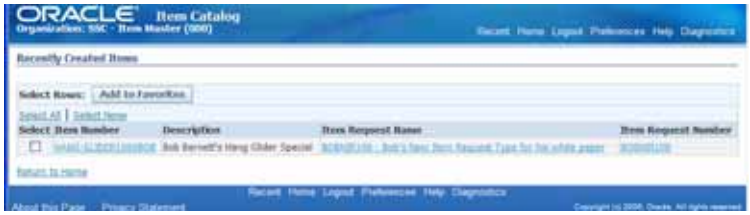
Here is what the initial NIR looks like.



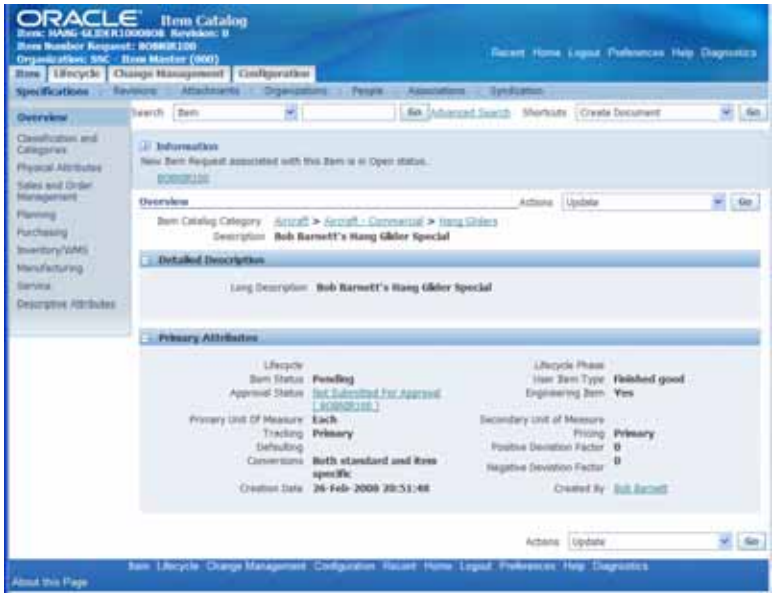
Notice on the bottom of the screen shot. There are TABs. One of the TAB is the page for the attribute group that we created earlier. Click on that TAB.



At this point, you can save the NIR with or without submitting to the workflow. For this document, I will click the Submit button.



Click on the new item request shown above. Notice the item number has been generated when the NIR submission occurred.



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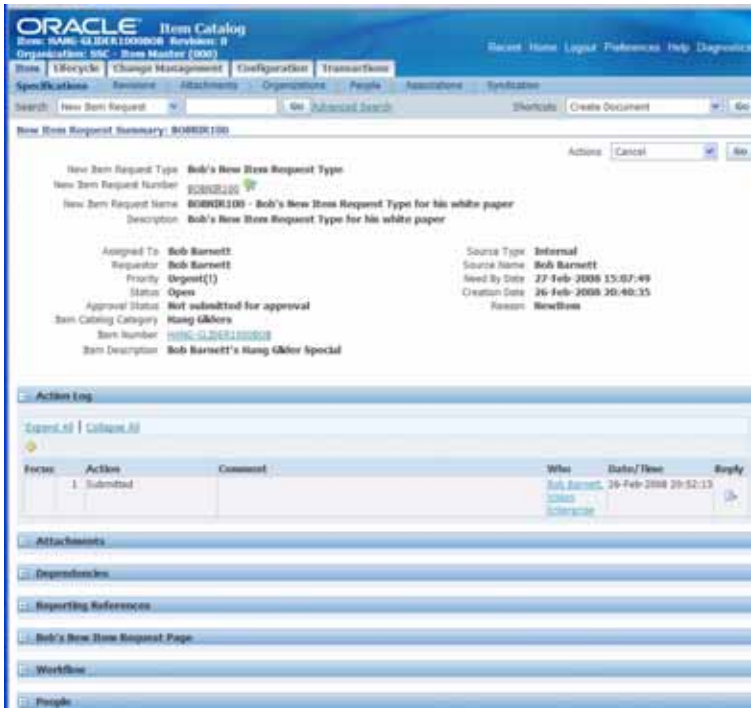
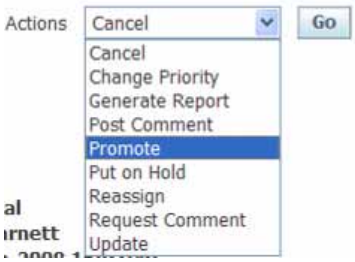
The document can be seen by clicking on the link in the Information section in the screen shot above.



To promote the NIR to get it into the workflow process we must click the actions and promote the NIR.



Select Promote and click Go button.

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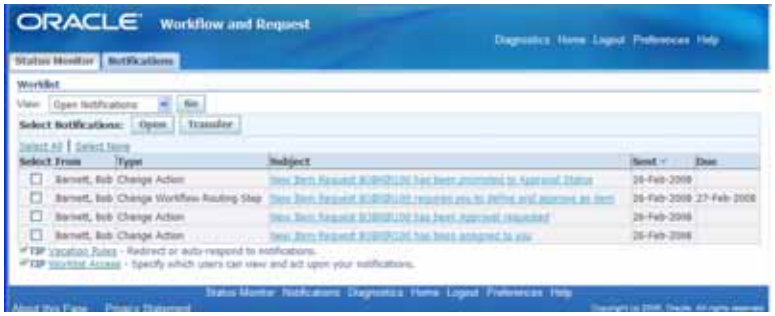
Add a comment if desired and click Apply.

Workflow notification is the normal way people would receive the information that they are to take action on a change document such as an NIR.



You can approve the NIR by navigating to the correct notification.

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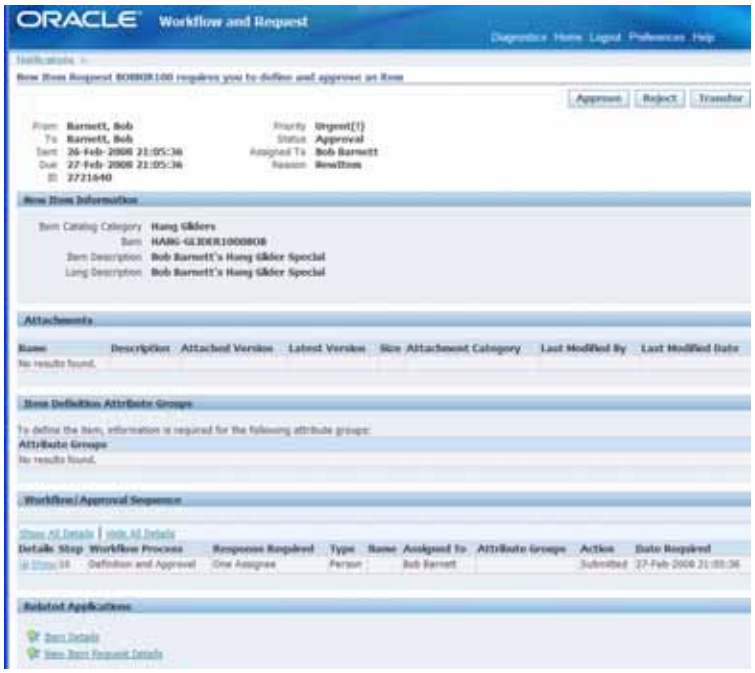
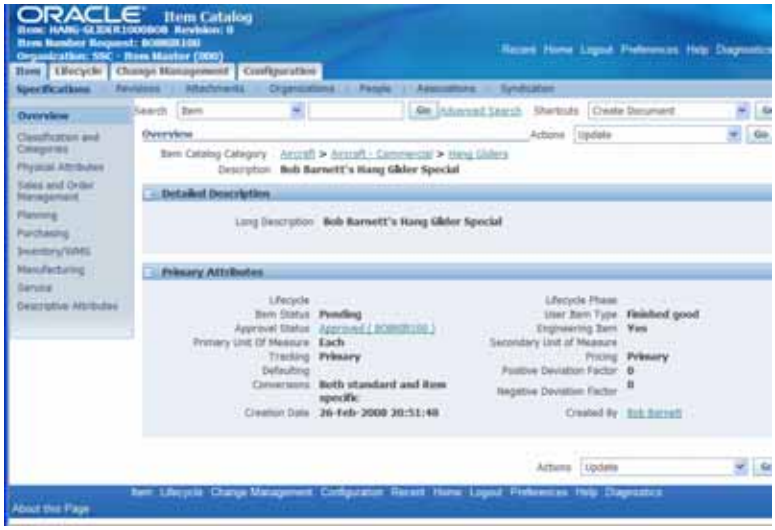


After the NIR is approved, it will be auto promoted to implemented status.

The Item is now approved and could be further analyzed and transferred to being a manufacturing/production item.



10.0 Closing Remarks

If you have need to introduce new part/item numbers for models, subassemblies, purchased parts, finished goods, services, or any other type of system item in Oracle E-Business Suite (EBS), then you can use Oracle's PLM NIR functionality to route the item to that appropriate people and groups inside and outside your organization.

New Item Requests (NIRs) give the Oracle user the ability to control, monitor, and verify that a new item has passed through the proper channels before they get used for transactions in the Oracle EBS.

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