Oracle® Quality

Implementation Guide

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Oracle Quality Implementation Guide, Release 11*i*

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Preface

Audience for This Guide

Welcome to Release 11*i* of the Oracle Quality Implementation Guide.

This guide assumes you have a working knowledge of the following:

- The principles and customary practices of your business area.

- Oracle Quality.

  If you have never used Oracle Quality, Oracle suggests you attend one or more of the Oracle Quality training classes available through Oracle University.

- The Oracle Applications graphical user interface.

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

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

Conventions

The following conventions are used in this manual:

Convention	Meaning
. . .	Vertical ellipsis points in an example mean that information not directly related to the example has been omitted.
. . .	Horizontal ellipsis points in statements or commands mean that parts of the statement or command not directly related to the example have been omitted

Convention	Meaning
boldface text	Boldface type in text indicates a term defined in the text, the glossary, or in both locations.
< >	Angle brackets enclose user-supplied names.
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Other Information Sources

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

If this guide refers you to other Oracle Applications documentation, use only the Release 11*i* versions of those guides.

Online Documentation

All Oracle Applications documentation is available online (HTML or PDF).

- **Online Help** - The new features section in the HTML help describes new features in 11*i*. This information is updated for each new release of Oracle Quality. The new features section also includes information about any features that were not yet available when this guide was printed. For example, if your administrator has installed software from a mini-packs an upgrade, this document describes the new features. Online help patches are available on MetaLink.

- **11*i* Features Matrix** - This document lists new features available by patch and identifies any associated new documentation. The new features matrix document is available on MetaLink.

Readme File - Refer to the readme file for patches that you have installed to learn about new documentation or documentation patches that you can download.

Related User's Guides

Oracle Quality shares business and setup information with other Oracle Applications products. Therefore, you may want to refer to other user's guides when you set up and use Oracle Quality.

You can read the guides online by choosing Library from the expandable menu on your HTML help window, by reading from the Oracle Applications Document Library CD included in your media pack, or by using a Web browser with a URL that your system administrator provides.

If you require printed guides, you can purchase them from the Oracle Store at http://oraclestore.oracle.com.

Guides Related to All Products

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 of Oracle Quality (and any other Oracle Applications products). This guide also includes information on setting user profiles, as well as running and reviewing reports and concurrent processes.

You can access this user's guide online by choosing"Getting Started with Oracle Applications" from any Oracle Applications help file.

User Guides Related to This Product

Oracle Internet Procurement Implementation Manual

Use this manual for further direction on enabling internal users to independently order items from both internal and external catalogs.

Installation and System Administration

Oracle Applications Concepts

This guide provides an introduction to the concepts, features, technology stack, architecture, and terminology for Oracle Applications Release 11*i*. It provides a useful first book to read before an installation of Oracle Applications. This guide also introduces the concepts behind Applications-wide features such as Business Intelligence (BIS), languages and character sets, and Self-Service Web Applications.

Installing Oracle Applications

This guide provides instructions for managing the installation of Oracle Applications products. In Release 11*i*, much of the installation process is handled using Oracle Rapid Install, which minimizes the time to install Oracle Applications, the Oracle8 technology stack, and the Oracle8*i* Server technology stack by automating many of the required steps. This guide contains instructions for using Oracle Rapid Install and lists the tasks you need to perform to finish your installation. You should use this guide in conjunction with individual product user's guides and implementation guides.

Upgrading Oracle Applications

Refer to this guide if you are upgrading your Oracle Applications Release 10.7 or Release 11.0 products to Release 11*i*. This guide describes the upgrade process and lists database and product-specific upgrade tasks. You must be either at Release 10.7 (NCA, SmartClient, or character mode) or Release 11.0, to upgrade to Release 11*i*. You cannot upgrade to Release 11*i* directly from releases prior to 10.7.

Maintaining Oracle Applications

Use this guide to help you run the various AD utilities, such as AutoUpgrade, AutoPatch, AD Administration, AD Controller, AD Relink, License Manager, and others. It contains how-to steps, screenshots, and other information that you need to run the AD utilities. This guide also provides information on maintaining the Oracle applications file system and database.

Oracle Applications System Administrator's 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, and manage concurrent processing.

Oracle Alert User's Guide

This guide explains how to define periodic and event alerts to monitor the status of your Oracle Applications data.

Oracle Applications Developer's Guide

This guide contains the coding standards followed by the Oracle Applications development staff. It describes the Oracle Application Object Library components needed to implement the Oracle Applications user interface described in the *Oracle Applications User Interface Standards for Forms-Based Products*. It also provides information to help you build your custom Oracle Forms Developer 6*i* forms so that they integrate with Oracle Applications.

Oracle Applications User Interface Standards for Forms-Based Products

This guide contains the user interface (UI) standards followed by the Oracle Applications development staff. It describes the UI for the Oracle Applications products and how to apply this UI to the design of an application built by using Oracle Forms.

Other Implementation Documentation

Oracle Applications Product Update Notes

Use this guide as a reference for upgrading an installation of Oracle Applications. It provides a history of the changes to individual Oracle Applications products between Release 11.0 and Release 11*i*. It includes new features, enhancements, and changes made to database objects, profile options, and seed data for this interval.

Multiple Reporting Currencies in Oracle Applications

If you use the Multiple Reporting Currencies feature to record transactions in more than one currency, use this manual before implementing Oracle Quality. This manual details additional steps and setup considerations for implementing Oracle Quality with this feature.

Multiple Organizations in Oracle Applications

This guide describes how to set up and use Oracle Quality with Oracle Applications' Multiple Organization support feature, so you can define and support different organization structures when running a single installation of Oracle Quality.

Oracle Workflow Guide

This guide explains how to define new workflow business processes as well as customize existing Oracle Applications-embedded workflow processes.You also use this guide to complete the setup steps necessary for any Oracle Applications product that includes workflow-enabled processes.

Oracle Applications Flexfields Guide

This guide provides flexfields planning, setup and reference information for the Oracle Quality 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 eTechnical Reference Manuals

Each eTechnical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and programs for a specific Oracle Applications product. This information helps you convert data from your existing applications, integrate Oracle Applications data with non-Oracle applications, and write custom reports for Oracle Applications products. Oracle eTRM is available on Metalink

Oracle Manufacturing APIs and Open Interfaces Manual

This manual contains up-to-date information about integrating with other Oracle Manufacturing applications and with your other systems. This documentation includes API's and open interfaces found in Oracle Manufacturing.

Oracle Order Management Suite APIs and Open Interfaces Manual

This manual contains up-to-date information about integrating with other Oracle Manufacturing applications and with your other systems. This documentation includes API's and open interfaces found in Oracle Order Management Suite.

Oracle Applications Message Reference Manual

This manual describes all Oracle Applications messages. This manual is available in HTML format on the documentation CD-ROM for Release 11*i*.

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Training

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From on-site support to central support, our team of experienced professionals provides the help and information you need to keep Oracle Quality working for you. This team includes your Technical Representative, Account Manager, and Oracle's large staff of consultants and support specialists with expertise in your business area, managing an Oracle8*i* server, and your hardware and software environment.

Do Not Use Database Tools to Modify Oracle Applications Data

Oracle STRONGLY RECOMMENDS that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle Applications data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL*Plus to modify Oracle Applications data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle Applications tables are interrelated, any change you make using Oracle Applications can update many tables at once. But when you modify Oracle Applications data using anything other than Oracle Applications, you may change a row in one table without making corresponding changes in related tables. If your

tables get out of synchronization with each other, you risk retrieving erroneous information and you risk 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 keeps track of who changes information. If you enter information into database tables using database tools, you may 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.

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 160 software modules for financial management, supply chain management, manufacturing, project systems, human resources and customer relationship 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.

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Part I

Nonconformance and Dispositions Solution

Part I of the implementation guide provides all needed information for the implementation of Oracle Quality's Nonconformance and Dispositions, based on the seeded solution templates delivered by Oracle Quality in Discrete Manufacturing Family Pack I.

1

Overview of the Nonconformance and Dispositions Solution

The Nonconformance and Dispositions system solution templates enable the process of implementing a nonconformance and disposition system, while leveraging existing functionality within Oracle Quality and other modules within the e-Business Suite. This chapter contains the following topics:

❏ Solution Templates on page 1-2

Solution Templates

Solution Templates aid in the ease of implementation with a pre-configured set of seeded collection plans. This set of seeded collection plans can be copied to real plans, modified if necessary, and implemented, enabling the implementation cycle time to be greatly reduced.

This section includes the following topics:

- – Objectives on page 1-2
- – Contents on page 1-2
- – Features on page 1-3

Objectives

The nonconformance and Disposition Solution objectives are to primarily perform the following business functions:

- To log, track, review, and update Nonconformance
- Progress the Nonconformance through its lifecycle, identified by distinct statuses
- Record Material Review Board (MRB) discussion and approvals, if any
- Execute the Disposition of the Nonconformance and track the execution status through its lifecycle

Contents

In order to achieve the Solution Template objectives, the solution templates contain the following contents:

- Seeded collection elements and associated lookup values for some of the seeded elements
- Seeded Template collection plans and corresponding values and actions
- Seeded parent-child collection plan structures with relationships, criteria, and data entry mode for the seeded template plans
- Copy Collection Plan process
- Automated Disposition Processor
- Seeded workflow for sending pre-configured workflow notifications

Features

The following table summarizes the key features provides with the Nonconformance and Disposition Solution. The details on how some of these features can be implemented are provided in later chapters:

Table 1–1   Solution Template Features

Key Feature	Supported Activities
Nonconformance Management and MRB	Log and track a nonconformance through its lifecycle
	MRB discussion threads to review nonconformances
	Segregation of nonconforming material
	Audit trail on changes made to nonconformances
	E-mail alerts and workflow notifications to assign actions (for example, review and approval) for nonconformance lifecycle progress
	Different modes of use: Transaction Integration, Inspection Plan Integration, and Direct Data Entry
Enterprise Wide Applicability	Receiving and Supplier Inspection
	Work in Process Inspections
	Finished Goods Inspection
	Inventory/Warehouse Inspection
	Equipment Maintenance
	Service Applications
Disposition Management	Multiple Dispositions for a single nonconformance
	E-mail alerts and workflow notifications to assign and/or inform individuals for disposition implementation
	Maintain audit trail of dispositions

Table 1–1   Solution Template Features

Key Feature	Supported Activities
Automated Disposition Action Processing	Work in Process Dispositions
	Creation of Rework Discrete Job
	Addition of Rework Operations
	Move to Rework Operation
	WIP Scrap
	Component Return and Issue
	Inventory Dispositions
	Inventory Scrap
	Move Order to segregate nonconforming material
Security and Privileges	Existing user group functionality
	Assignment of Privileges to create, update, insert, and/or delete from a collection plan
Menu Options	Menu options to invoke the nonconformance and dispositions in Enter, Update, and View modes

2

Implementation Considerations

This chapter contains general implementation considerations for the Nonconformance and Disposition solution. This chapter contains the following topics:

❏ Implementation Considerations Overview on page 2-2

❏ Implementation Roadmap on page 2-15

❏ Implementation Checklist on page 2-18

Implementation Considerations Overview

The Nonconformance and Disposition solution is based on a set of related collection plans that store nonconformance and disposition related information. Implementation of the solution templates aid in the process of satisfying the requirements of some international quality standards, listed below:

- ISO 9000:2000 and QA9000 - 4.13 - Control of Nonconforming Product

- Code of Federal Regulations - 21CFR820.90 - Nonconforming Product

- Additional requirements of AS9100 - Clause 8.3 - Control of Nonconforming Product

The nonconformance and disposition records are created, updated, and copied across plans throughout the lifecycle, by various participants within the business process. Notifications are sent to responsible parties to ensure that appropriate actions are taken. Some of the disposition execution can be automated. A predefined list of values is provided to ensure the validity of data.

This implementation guide provides you with the most generic nonconformance and disposition business flow. Your specific nonconformance and disposition business processes can be different from the generic business flow. This solution is flexible and easily extensible, and can be tailored to suit your specific business needs. The following sections describe some of the factors that need to be considered before implementation.

What are the benefits of a transition from a paper based nonconformance and disposition system?

The basic premise of the solution templates provides a central repository for all the nonconformances and dispositions information, within an organization. By implementing the solution templates, you have the following advantages:

- Remove the paper trail, as well as reduce the maintenance of all paper records

- Provide a shorter cycle time to review and disposition nonconformances

- Notify the required personnel in your organization via e-mail alerts and workflow notifications, as well as e-mail alerts to mobile devices

- Easy retrieval of any nonconformance or disposition information, using the standard query capabilities of Oracle Quality

- Provide for an easier method of reporting on nonconformances over a period of time or for a specific item or assembly

- Ease in the extension of the solution templates to capture any additional information elements that need to be recorded and tracked

- If your organization still requires paper copies of records for compliance purposes, these can be printed using the Oracle Quality Report Writer, or by building custom reports

How will the solution template help your enterprise transition from stand-alone legacy systems?

If you are using different disparate, non-integrated systems to track nonconformances, as mentioned earlier, the solution templates aid to centrally maintain this information, In addition to using Oracle Quality, other integrations available within the e-Business Suite will help you to track nonconformances at different points within the supply chain.

What are the different types of nonconformances logged in your enterprise?

Depending on the type of business and industry you are in, the nonconformances reported in your enterprise might be at different points within the supply chain. To address all the likely functional areas that may generate a nonconformance, the solution has been designed to accept inputs from different sources.

Some functional areas where nonconformance occurs are identified below:

- *Supplier Nonconformance:* A supplier reports this type when they find a nonconformance prior to shipping the purchased material or outside processing material to your company. The supplier can use Oracle iSupplier Portal to submit the nonconformance electronically.

- *Receiving Nonconformance:* This type is recorded and subsequently dispositioned for purchased material and for material sent to the supplier for any outside processing operations. The nonconformance is usually recorded as a result of receiving inspection.

- *Work In Process Nonconformance:* This type is logged during the in-process inspection of a semi-finished assembly, or finished goods inspection prior to moving it to an inventory location.

- *Inventory Nonconformance:* This type can be logged during inventory inspection or during cycle/physical count activities.

- *Customer Nonconformance:* This type is logged when a customer reports that the products they have received do not meet the specified requirements. This can likely result in a Returned Material Authorization (RMA) that is issued, and the

nonconforming material received back by the supplier for further evaluation and disposition.

- *Maintenance Nonconformance:* This type of nonconformance is logged to report defects on maintenance equipment used for critical production processes within an organization.

- *Nonconformance logged through mobile devices:* Since quality inspections can be performed on mobile devices using Oracle Warehouse Management and Mobile Supply Chain Applications functionalities, it is possible to log nonconformances for receiving or in-process inspection activities via mobile devices.

- *Non-Material Nonconformance:* In any organization, it is possible to report nonconformances on process issues, non-compliance to standard operating procedures, quality standards, and other non-material type issues.

Nonconformances logged from all sources are stored in a central repository titled, Nonconformance Master.

Due to the tight integration of Oracle Quality with other modules within the Oracle eBusiness Suite, it is possible to record nonconformances during inspection or other transaction that are currently supported. Please refer to Setup Steps, Step 12 on page 3-3.

What type of data will be captured for nonconformance and disposition?

The Nonconformance and Disposition solution provides data collection capability to capture data for nonconformance, disposition, and associated quality results. Depending on your current business process, as well as your required level of detail, a choice can be made between the three different configurations:

Table 2–1   Supported Configurations for Nonconformance and Disposition

Configuration	Details and Usage	Parent Plan
Nonconformance and Disposition (recommended configuration)	This configuration has all the collection plans and seeded data for implementing Nonconformance and Disposition Management (the master set of the next two configurations)	Template Nonconformance Master Plan

Table 2–1   Supported Configurations for Nonconformance and Disposition

Configuration	Details and Usage	Parent Plan
Disposition Only	This configuration consists of all collection plans and related seeded data used for Disposition Management only.	Template Disposition Header Plan (Disposition Only)
	Use this configuration if your business tracks disposition only and would like to take advantage of the automatic disposition transaction execution capability.	
Nonconformance Only	This configuration consists of all collection plans and related seeded data used for Nonconformance Management only.	Template Nonconformance Master Plan (Nonconformance only)
	Use this configuration if your business does not require a systematic way of tracking disposition.	

Additional data could be captured in user-defined collection elements and added to these collection plans. See: Setup Steps, Step 9 on page 3-3.

Alternatively, these elements can be grouped into additional plans and linked to the nonconformance/disposition system. See: Setup Steps, Step 10 on page 3-3.

What needs to be done after a configuration is chosen?

Once the decision on which configuration is suited for your enterprise has been made, the next step is to copy the template plans, associated with the specific configuration, to real plans. The template plans have collection elements, actions, and parent-child relationships that have already been defined.

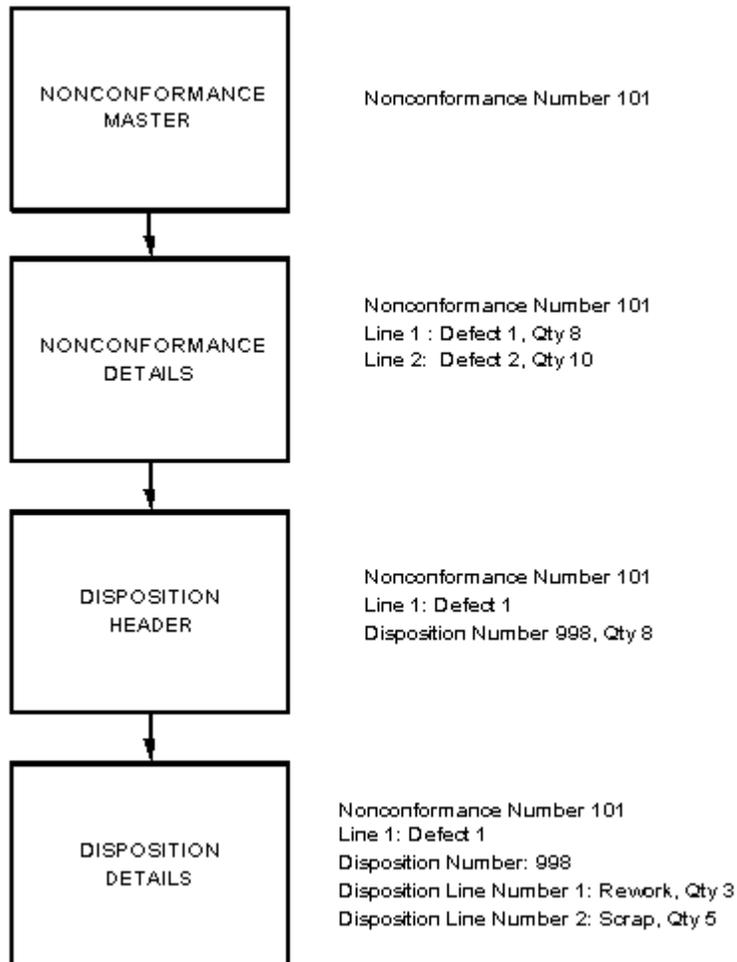A tool is provided to copy this set of template collection plans to real plans. See: Setup Steps, Step 2 on page 3-3. You can choose to copy from the template collection plans, tailor these to your business needs, and make these a reference set of plans for your implementation. See: Considerations Prior to Implementation on page 3-28.

How is the nonconformance and disposition information organized?

All the necessary data elements required for the nonconformance and disposition lifecycle can be captured at different levels in the parent-child collection plan structure. Depending on the granularity of information that your business process requires you to capture, the different levels might or might not be applicable to you.

The following block diagram displays a simplified version of the nonconformance and disposition data structure. Following are the assumptions for this structure:

- A nonconformance is reported in a specific functional area of the enterprise.

- The Nonconformance Master is the central repository for all different nonconformance types.

- When a nonconformance is logged, the nonconformance details have multiple lines with the quantity breakdown, different causes, and defect types. For example, as a result of inspection, a quantity of ten of item ABC is found to be nonconforming. In this case, a nonconformance is entered in the Nonconformance Master for a quantity of ten, and within the nonconformance details plan, the breakdown of the quantity might be provided. If three of ten were damaged, five of ten were broken, and the remaining two had visual defects, then three detail lines need to be entered in the nonconformance details. Review of each nonconformance line can be a separate discussion thread.

- The nonconformance details will be the vehicle to carry Material Review Board (MRB) types of discussion, described later.

- When a nonconformance has been reviewed and it requires disposition, then the disposition header information is required to be entered.

- A single nonconformance line can have multiple dispositions. For example, we will assume a purchased item that has been received into inventory has defects. A nonconformance is logged and after the review process, it was determined that some of the nonconforming quantity will be returned to the vendor, some will be reworked internally, and the remaining quantity will be scrapped. In this case, the single nonconformance line can have multiple disposition header lines, or a single disposition header line.

- The disposition details provide additional granularity on the specific dispositions that need to take place. For example, if the disposition was Rework, then the detail line will have additional information if the disposition status is to create a rework job, or create a rework operation for the existing job, etc. The disposition action chosen determines the execution of the automated disposition action.

Figure 2–1   Organization of Data in Nonconformance and Disposition


```
┌──────────────────────┐
│   NONCONFORMANCE     │      Nonconformance Number 101
│      MASTER          │
└──────────────────────┘
          │
          ▼
┌──────────────────────┐      Nonconformance Number 101
│   NONCONFORMANCE     │      Line 1 : Defect 1, Qty 8
│      DETAILS         │      Line 2:  Defect 2, Qty 10
└──────────────────────┘
          │
          ▼
┌──────────────────────┐      Nonconformance Number 101
│    DISPOSITION       │      Line 1: Defect 1
│      HEADER          │      Disposition Number 998, Qty 8
└──────────────────────┘
          │
          ▼
┌──────────────────────┐      Nonconformance Number 101
│    DISPOSITION       │      Line 1: Defect 1
│      DETAILS         │      Disposition Number: 998
│                      │      Disposition Line Number 1: Rework, Qty 3
│                      │      Disposition Line Number 2: Scrap, Qty 5
└──────────────────────┘
```

If your business organizes information in a simplified fashion, you can remove any level (collection plan) that is unnecessary. See:

How are Nonconformances and Disposition identified?

The current practice in your enterprise might require you to track Nonconformance and Disposition using standard operating procedures. In this solution, nonconformances and dispositions are identified using two collection elements:

Nonconformance Number and Disposition Number. These are Sequence type collection elements and have specific attributes associated.

These attributes can be customized to match the naming convention used in your enterprise. See: Setup Steps, Step 3 on page 3-3.

Who has privileges to access Nonconformances and Disposition information?

In any system that tracks nonconformances and dispositions, it is important to limit access to authorized individuals, due to information sensitivity. Once the information is accessed, the type of operations enabled for the user needs to be considered. You can utilize collection plan security to achieve this.

Different participants of the process can be given different privileges (create, update, view) to access different sets of information. In this manner, careful administration of user privileges is collection plan security. See: Setup Steps, Step 8 on page 3-3.

How are user entered values validated?

New collection elements with a set of values have been provided as a starting point to record nonconformances and dispositions. The solution has included commonly used values for validation of some collection elements, listed below:

- Nonconformance Source
- Nonconform Severity
- Nonconform Priority
- Nonconformance Type
- Nonconformance Code
- Nonconformance Status
- Nonconform Line Status
- Action Executed
- Disposition
- Disposition Action
- Disposition Status
- Disposition Source

These values can be modified to your valid values, according to your business rules. See: Setup Steps, Step 4 on page 3-3.

How are individuals informed about a nonconformance or disposition?

In this solution, e-mail alert and workflow notification capabilities have been provided. Depending on the prevalent practice in your organization, either one or both can be used to inform, update, and adding individuals to specific tasks during the nonconformance and disposition lifecycle. Optionally, the e-mail alerts can be sent to mailing lists, or people outside of your organization, such as suppliers, customers, etc. They can also be sent to mobile devices.

How do you implement the Material Review Board process?

Traditionally, when a material nonconformance is logged, depending on the business process in that industry or specific organization, the nonconformance is reviewed by a group of authorized individuals who determine how the nonconforming material needs to be dispositioned. This process can involve discussions between representatives from different functional areas, such as Quality Assurance, Inventory, and Purchasing.

If your organization has a formal MRB process, it can be modeled using the nonconformance solution; discussion threads on the cause and analysis of the nonconformance can be carried out. Initially, the nonconformance owner assigned to a distribution list can be used to send e-mail alerts on the nonconformance. It is possible to include additional reviewers or approvers in an ad hoc manner, based on the progress of the nonconformance lifecycle.

In the following example, the modeling of MRB activities via the solution templates is highlighted. When a nonconformance needs to be reviewed by a group of people (MRB, for example), the Action and Notes related elements of the Nonconformance Detail plan can be utilized.

For example, the nonconformance owner wants to ask the Quality Engineer to perform certain analysis, he or she could enter a record into Nonconformance Details with the following values:

Action Executed By	Nonconformance Owner
Next Action Type	FOR ANALYSIS
Next Action Description	Please perform XYZ analysis...
Next Action Assigned To	Quality Engineer

This Quality Engineer has performed the analysis and requests a review by his manager by updating the same Nonconformance Detail:

Note Type	ANALYSIS
Notes	Detailed results of the analysis...
Action Executed	ANALYSIS
Action Executed By	Quality Engineer
Next Action Type	FOR REVIEW
Next Action Description	Please review this for analysis
Next Action Assigned To	Quality Manager

The following screenshots illustrate how the Material Review process is handled using the Nonconformance and Disposition solution. All updates to these elements are captured in multiple history records of this parent record.

Figure 2–2   Nonconformance Detail Plan
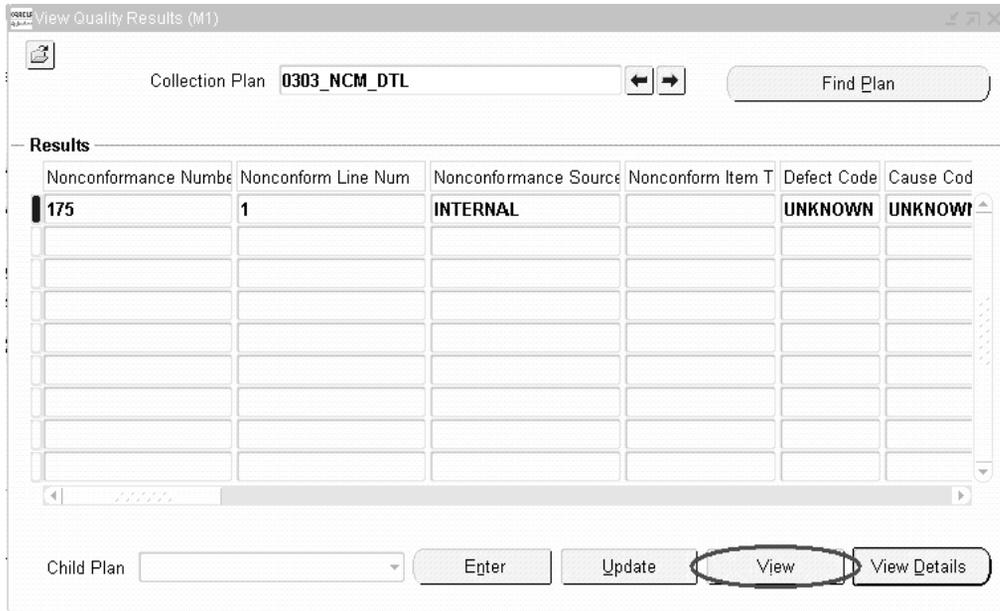
Figure 2–3 Nonconformance Detail History, viewed from Nonconformance Detail

How is MRB Hold or segregation achieved?

When nonconforming material is found, if it is decided to put the material on hold and unavailable for use, the same can be achieved by segregation actions. The segregation actions supported are: Creation of a move order to move nonconforming material found during receiving inspection or in inventory to a MRB location and component return of a nonconforming component from WIP to a MRB subinventory. With these two segregation actions, the nonconforming material cannot be transacted until a decision on its disposition is made. The designated MRB subinventory should be defined with the appropriate parameters to make it non-nettable and not reservation enabled.

There are two segregation plans that are child plans to the Nonconformance Master. The can be used to execute these segregation actions.

How is an Audit Trail of Nonconformance and Disposition maintained?

All collection plans provided in the solution contain a History plan as one of the children. When these collection plans are used out-of-the-box after copying them to

real collection plans, the history plan captures all updates made to any collection element in the parent plan. Therefore, from an auditing perspective, if it is required to display the details on all changes made to a nonconformance line, the same can be demonstrated.

If there are only some collection elements that need to be captured for audit trail purposes, then the parent-child copy relationship between the parent and child plans for the non-essential collection elements needs to be removed. If for compliance purposes, the audit trail needs to be reported, custom reports can be built to generate the same.

How do you link the Corrective Action system to the Nonconformance and Disposition system?

When logging a Corrective Action Request as part of your Nonconformance or Disposition process flow, the Corrective Action system can be linked to the collection plan corresponding to the step in your process. See: Setup Steps, Step 11 on page 3-31.

How do you use attachments for nonconformance and dispositions?

The current functionality of adding attachments within the Enter Quality Results and Update Quality Results windows is applicable to nonconformance and disposition. When logging a nonconformance, it might be required to attach pictures of the nonconforming material. In the case of dispositions, such as rework, additional instructions can be provided by drawing attachments.

In addition, for the disposition actions of creating a rework job or adding a rework operation, when attachments (for work instructions) are added at the line level of the respective disposition action, the attachments will be copied to the newly created rework job and operations. This facilitates the personnel to review the work instructions when performing a re-work.

How do you maintain a link between multiple nonconformances?

To illustrate how to link multiple nonconformances, two scenarios are used. In the first case, a nonconformance is logged for an assembly and it is later found that the actual nonconformance is because of a component in the assembly. This can be modeled in the following manner:

The collection plans, Nonconformance Master and Nonconformance Details have a collection element, Nonconform Item Type. The initial values available for this element are Assembly and Component. When the nonconformance is logged in the Nonconformance Master, the Nonconform Item Type can be entered as Assembly

with the item number in the item collection element. When it is later determined that the cause of the nonconformance is the component, the Nonconform Item Type can be updated to the component with the relevant item number. Because history for the nonconformance is captured, it is possible to trace back and infer that the initial nonconformance was for the assembly and then it later became a component nonconformance.

In the second case, a nonconformance is logged for a finished product. Initial analysis reveals that it is an assembly problem. The Nonconform Item Type can be used to specify that the assembly caused the nonconformance. Additional investigation by disassembling the finished product reveals that there are multiple components in the assembly nonconforming. A nonconformance can be logged for each nonconforming component.

To maintain an association with the original nonconformance, you can create a new collection element, Parent Nonconformance, of character data type, and add the element to the Nonconformance Master and/or Details plan. When a new nonconformance is logged for each nonconforming component, a unique nonconformance number is generated. The Parent Nonconformance element can be used to maintain a link with the original nonconformance. Later, if all nonconformances for a specific parent nonconformance is required to be reported, the parent nonconformance number can be used as the query criterion to find all nonconformances. See: Reporting Overview on page 7-2.

How do you capture nonconformance and disposition costs?

The following steps can be performed:

- Create new elements, such as Nonconformance Cost and Disposition Cost

- Add these new elements to the appropriate plans at any level in the nonconformance and disposition, parent-child collection plan structure

- If you want the costs to roll up to a parent level plan, set up appropriate parent-child element relationships. For example, if you add Nonconformance Cost to the Nonconformance Master and Nonconformance Detail plan, then you can set up the parent-child element relationship in the following manner:

    - Parent Plan: Nonconformance Master

    - Child Plan: Nonconformance Details

    - Parent Element: Nonconformance Cost **is the sum of Child element**, Nonconformance Cost

- Where appropriate, when entering the Nonconformances Details, enter the nonconformance cost for each line; the costs will be summed up from the nonconformance line level to the Nonconformance Master

- You can build reports using Oracle Quality Results Report Writer with the new cost collection element

Implementation Roadmap

The following process flow illustrates a generic nonconformance and disposition lifecycle:

Figure 2–4   Simplified Flow for Nonconformance Management
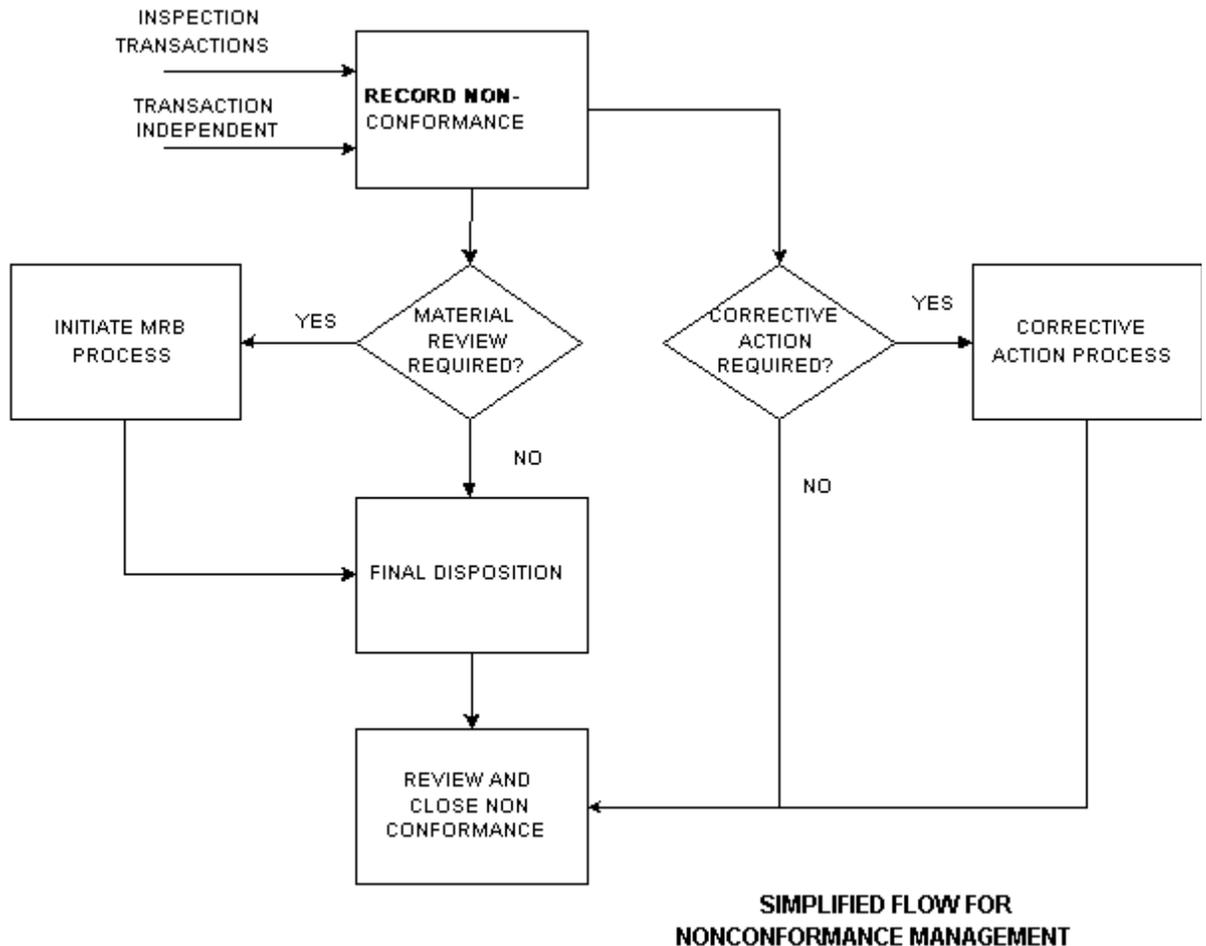
Figure 2–5   Nonconformance and Disposition Lifecycle
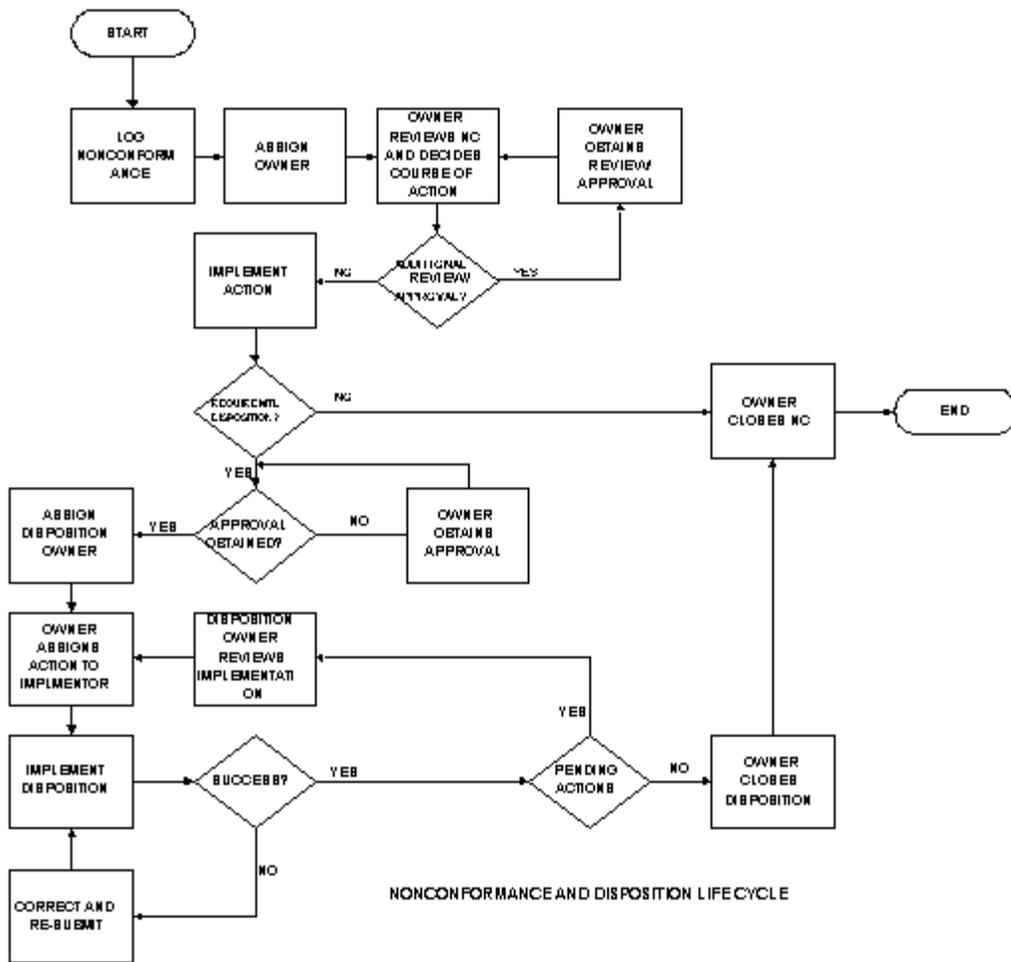
Each rectangle represents an action step in the business flow and corresponds to step(s) to be executed in the Oracle Quality Nonconformance Solution. The following table illustrates the business flow step and the equivalent step in the nonconformance and disposition solution. Additional details, based on the function area of the nonconformance, are provided in the remaining chapters.

Table 2–2   Nonconformance and Disposition Lifecycle Steps

Business Flow Steps	Oracle Quality Nonconformance and Disposition Solution Steps
Log Nonconformance	Enter a new record into the Nonconformance Master Collection Plan within Oracle Quality
Assign Owner	Update Owner collection element in the Nonconformance Master
Segregate Nonconforming Material	Enter information in the inventory or WIP segregation plan to segregate the material and move to a MRB or other quarantine subinventory
Review Nonconformance	Update elements such as Priority and Severity in the Nonconformance Master
	Enter a new record into the Nonconformance Detail (child collection plan of Nonconformance Master) to capture additional details and notes
	Update elements such as Notes and Action in the Nonconformance Detail
Approve Nonconformance	Update Action Executed to Approval in the Nonconformance Detail
	(Customized workflows can also be used to achieve approvals, based on approval hierarchy)
Record Disposition	Enter a new record in Disposition Header to describe the Disposition
	Enter one or more records in the Disposition Detail (child plan of Disposition Header) to indicate the Disposition Action(s)
Disposition Implementation	Enter one or more records in the Disposition Implementation collection plan for the corresponding functional area (In-Process, Inventory)
Close Disposition	Update Status element to Closed in Disposition Implementation, Disposition Detail, and Disposition Header plans
Close Nonconformance	Update Status element to Closed in Nonconformance Detail and Nonconformance Master plans

Implementation Checklist

The implementation might span multiple functional areas. The following list provides information on the process flow and steps to implement within these functional areas:

❏ Setup

As seen in the above mapping table, the system is based on a set of Oracle Quality collection plans (Nonconformance Master, Nonconformance Details, Disposition Header, Disposition Details), and the most important setup step is to create these plans. See: Overview of Setting Up on page 3-2

❏ Implementation by functional area

Chapters 4 and 5 discuss the generic business process flow and the steps of implementation for each business function that would generate or report a nonconformance. The functional areas are limited to Supplier, Receiving, Work-in-Process, Inventory, and Customer Nonconformances.

Refer to Process Steps on page 5-2 for information on how nonconformance and disposition can be implemented in a mobile application environment (Oracle Warehouse Management or Mobile Supply Chain Applications).

The appendices list all seeded collection plans, as well as their collection elements, parent-child relationships, and actions.

> **Note:** It has been attempted to depict the business flow in a general manner. It is possible that the actual business flow in your enterprise to report, review, and disposition nonconformances are different from the process flow diagrams above. Please use the process flow diagram as a guidance tool.

❏ Reporting and other Solution Configurations

Chapter 7 describes how to generate reports on Nonconformance and Disposition.

Chapter 8 describes the other configurations that can be built on top of the Nonconformance and Disposition Solution. Some of them are Workflow configuration, SQL *Plus Report, and Modification of E-mail Notifications to suit your business needs.

3

Setting Up

This chapter outlines the steps necessary to set up Oracle Quality in order to use the Nonconformance and Disposition Solution Templates. This chapter contains the following topics:

❏ Overview of Setting Up on page 3-2

❏ Setup Steps on page 3-3

❏ Considerations Prior to Implementation on page 3-28

Overview of Setting Up

The Nonconformance and Disposition Solution is delivered as a set of template collection plans and related seeded data. To utilize the solution, real collection plans need to be created and set up for use. These plans should also be modified according to your specific business needs. The following is a setup checklist:

Setup Checklist

❑ Choose a configuration

❑ Copy from template collection plans

❑ Update of Sequence prefix and suffix

❑ Update of values for seeded collection elements

❑ Update of menu option to point to the correct plan

❑ Modify collection plan details and plan element prompts

❑ Update 'Execute a SQL Script' text

❑ Set up collection plan security

❑ Add user defined elements to the plans

❑ Link user defined plans to the system

❑ Link corrective action system to the nonconformance and disposition system

❑ Link transaction collection plan to the system

❑ Unlink unnecessary plans from the system

❑ Organize the plan elements into folders

❑ Set up Profile Options: Autoquery set to No

❑ Setup complete in other modules

❑ Maintain a reference copy of the plans

Setup Steps

Step 1 - Choose a configuration (mandatory)

In order to accommodate a customer's choice to implement a complete Nonconformance and Disposition Solution, purely in Oracle Quality, or only portions of it, the following configurations are supported:

Table 3–1   Supported Configurations and corresponding Parent Plans

Configuration	Details and Usage	Parent Plan
Nonconformance and Disposition	This configuration consists of all collection plans and related seeded data used for implementing Nonconformance and Disposition Management. (the master set of the next two configurations)	Template Nonconformance Master Plan
	This is the recommended configuration for business that require integrated, Nonconformance Management and Disposition tracking.	
Disposition Only	This configuration consists of all collection plans and related seeded data, used for Disposition Management only.	Template Disposition Header Plan (Disposition Only)
Nonconformance Only	This configuration consists of all collection plans and related seeded data, used for Nonconformance Management only.	Template Nonconformance Master Plan (Nonconformance only)
	Use this configuration if your business does not require a systematic method to track disposition.	

Step 2 - Copy from Template Collection Plans (mandatory)

Based on the configuration you had chosen in the previous step, copy the entire structure of template collection plans into a set of real collection plans. The plans

can be copied using the Copy Collection Plans process. It is required to specify the target or destination organization in which this set of plans will be used, as well as the user-defined names for these plans.
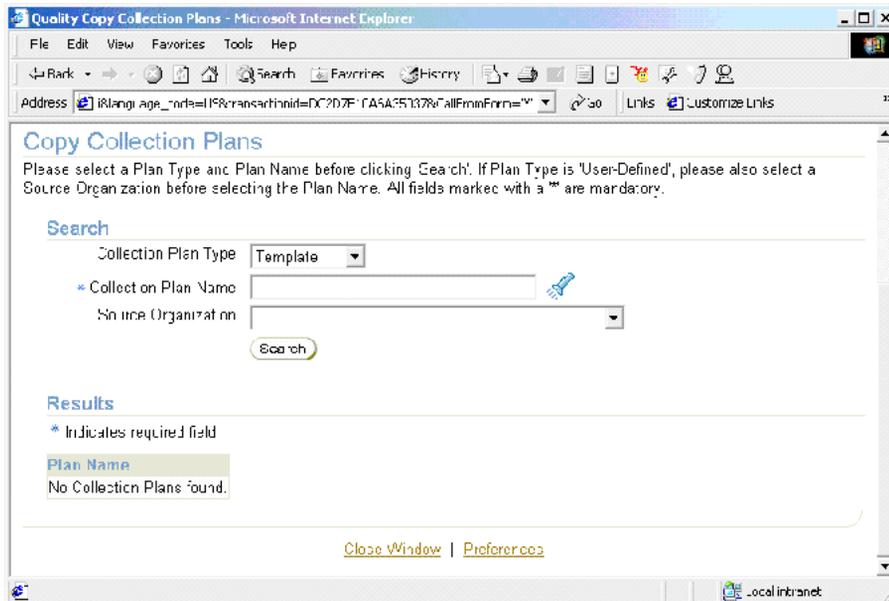
> **Note:** Template collection plans cannot store quality results and cannot be updated.

1. Navigate to the Copy Collection Plans page (N) Quality: Setup > Copy Collection Plans.

Figure 3–1   Copy Collection Plans Page

2. Select Template from the Collection Plan Type list of values.

3. Select a parent Collection Plan Name. Depending on the configuration (step 1) chosen for implementation. You can use the search page, as well, to search on the available template plans.

Figure 3–2   Partial List of Seeded Template Collection Plans with Disposition Configuration Highlighted
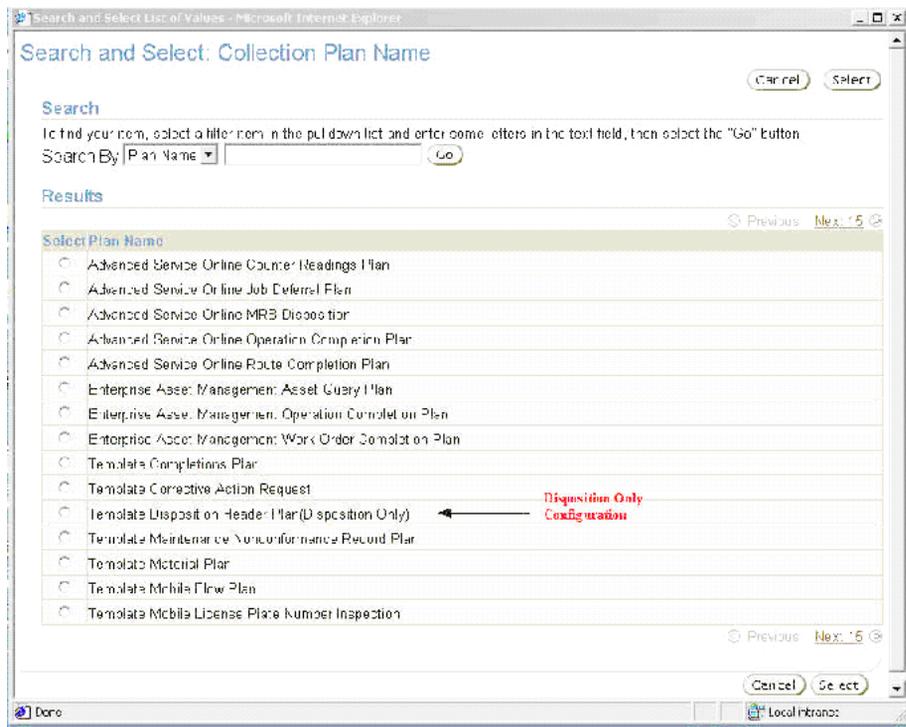
Figure 3–3   Partial List of Seeded Template Collection Plans with Nonconformance Configurations Highlighted
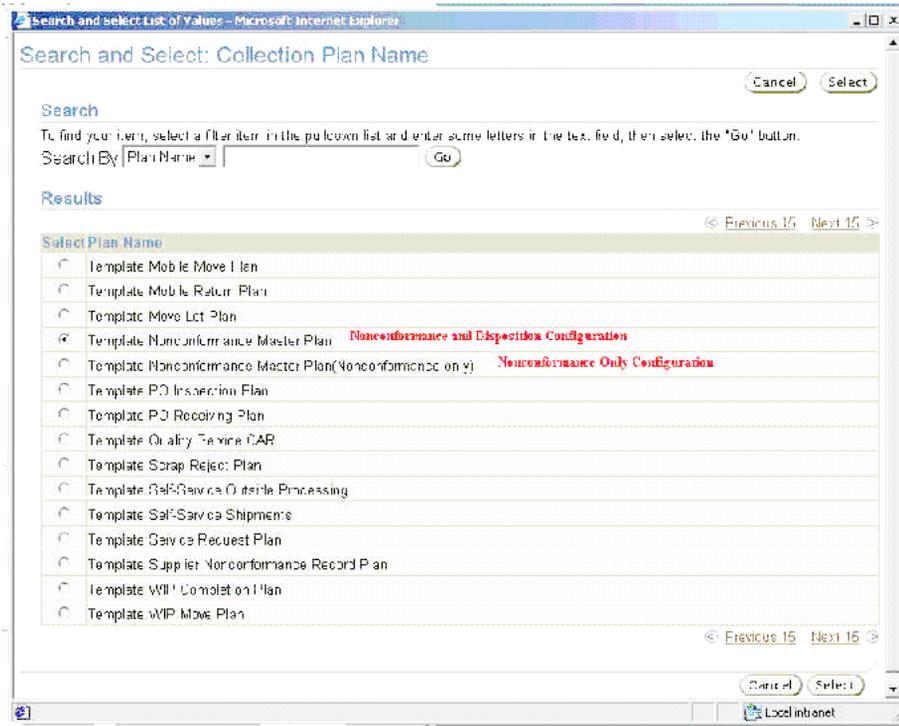
4. The Organization will not be populated and is not necessary because the template plans are not assigned to an organization.

5. Choose Search.

6. Review the hierarchy of plans within the Results region.

Figure 3–4   Parent-Child Plan Structure for Nonconformance and Disposition Collection Plans
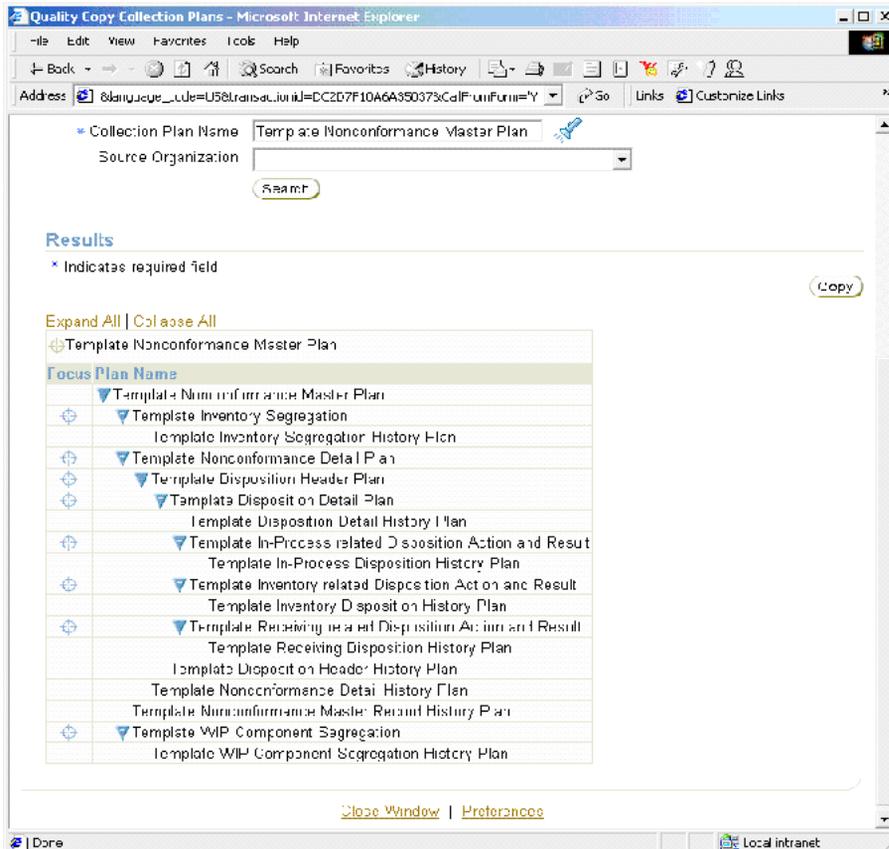
7. Choose Copy.

8. Enter New Plan Names for each of the template plan names displayed within the Source Plan Name column.

> **Note:** Each individual plan name is required, and the plan names should be unique.

Figure 3–5 New Collection Plans to be copied from Template

9. Select a Destination Organization. The collection plan structure will be copied to this organization.

10. Choose Finish. Plans with names you have chosen will be created with elements, values, actions, and parent-child relationships, copied from the template plans.

11. You can optionally implement the process that enables suppliers to log nonconformances via Oracle iSupplier Portal, prior to shipment. You can also log nonconformances within Oracle Enterprise Asset Management; you can copy the following stand-alone template collection plans:

   ■ Template Supplier Nonconformance Record Plan

   ■ Template Maintenance Nonconformance Record Plan

The steps to copy are similar to the steps described earlier, with the exception that these plans do not have a parent-child collection plan structure.

Step 3 - Update of Sequence prefix and suffix (mandatory)

The Nonconformance and Disposition Solution generates a sequence number for uniquely identifying the individual Nonconformance and Disposition Numbers. If your business practice requires a specific manner of identifying these sequentially generated numbers, you can set up the appropriate prefix and suffix information; this should be performed before using and entering data in the Nonconformance and Disposition Collection Plans.

> **Note:** After quality results have been entered for sequence collection elements and saved into the nonconformance and disposition collection plans, the prefix/suffix cannot be changed.

1. Navigate to the Collection Elements window (N) Quality: Setup > Collection Element.

2. Select Nonconformance Number and Disposition Number from the Collection Element list of values.

Figure 3–6   Update of Sequence Collection Element Attributes
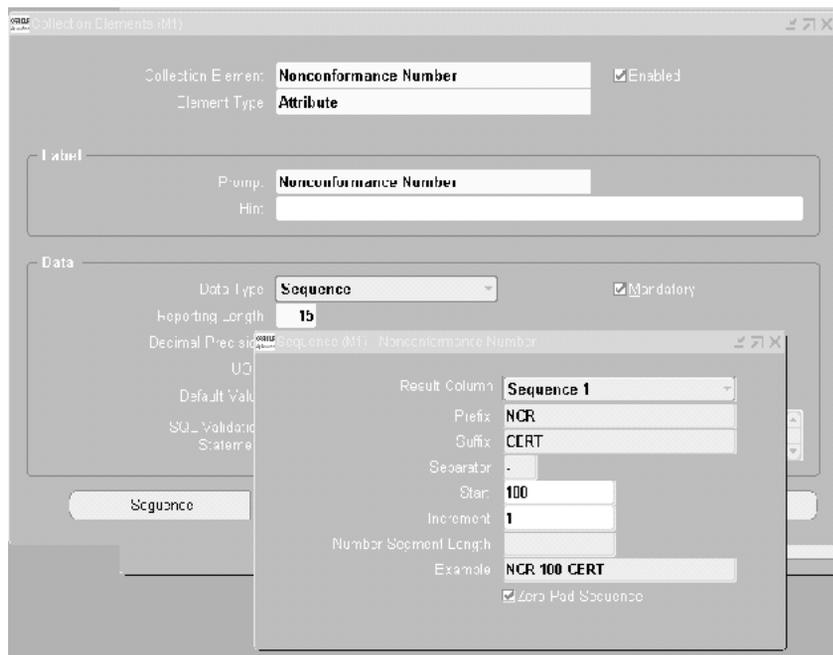
3. Choose Sequence.

4. Enter your desired Prefix, Suffix, Separator, Increment, and Number Segment Length.

5. Repeat these steps for the Disposition Number (Collection Element).

6. Save your work.

Step 4 - Update of values for seeded collection elements (optional)

Oracle Quality has seeded commonly used values for some collection elements, as part of the seeded data. Depending on applicability of these values to your organization process, these values can be modified either at the collection element level, or at the plan level.

As part of the Nonconformance and Disposition Solution, many seeded collection elements have been provided. Some of these elements are listed below:

- Nonconformance Source

- Nonconform Severity

- Nonconform Priority

- Nonconformance Type

- Nonconformance Code

- Nonconformance Status

- Nonconform Line Status

- Action Executed

- Disposition

- Disposition Action

- Disposition Status

- Disposition Source

To update values for seeded collection elements:

1. Navigate to the Collection Elements window (N) Quality: Setup > Collection Element.

2. Select the element, for which you want to change its value, from the Collection Element list of values.

3. Choose Values.

4. Add or modify these values to match your organization process statuses and codes.

5. Save your work.

To update values for copied collection plans:

6. Navigate to the Collection Plans window (N) Quality: Setup > Collection Plans.

7. Query the plan that contains the collection element that you modified above.

8. Select the Collection Element, then choose Values. You can add or modify the values you had entered.

9. Optionally, choose Defaults to copy the values from the collection element definition.

> **Note:** Do not delete the seeded lookup values for the collection elements, Disposition Action and Disposition Status. These seeded values are internally used by Oracle Quality. You can add new lookup values to this list of elements.

Step 5 - Update of menu entry to point to the correct plan (mandatory)

To ease the use of Nonconformance and Disposition Solution seeded menu options for entry, update and view of the Nonconformance and Disposition, are provided. These menu options need to be modified by the System Administrator to point to the top most parent plan that was created in Step 2.

You first need to find the plan identification number of the Nonconformance Master and Disposition Header you have copied into.

1. Navigate to the Collection Plans window.

Figure 3–7 Collection Plans Window
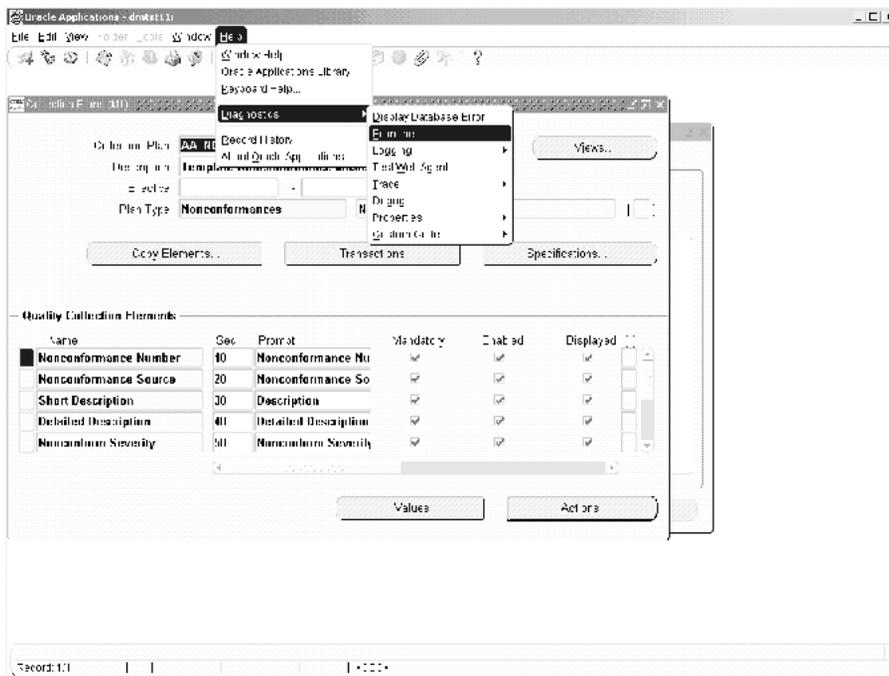
2. Select the Collection Plan from the list of values.

3. From the Help menu, select Diagnostic, then Examine, to display the Examine Field and Variable Values window.

Figure 3–8 Examine Field and Variable Values Window
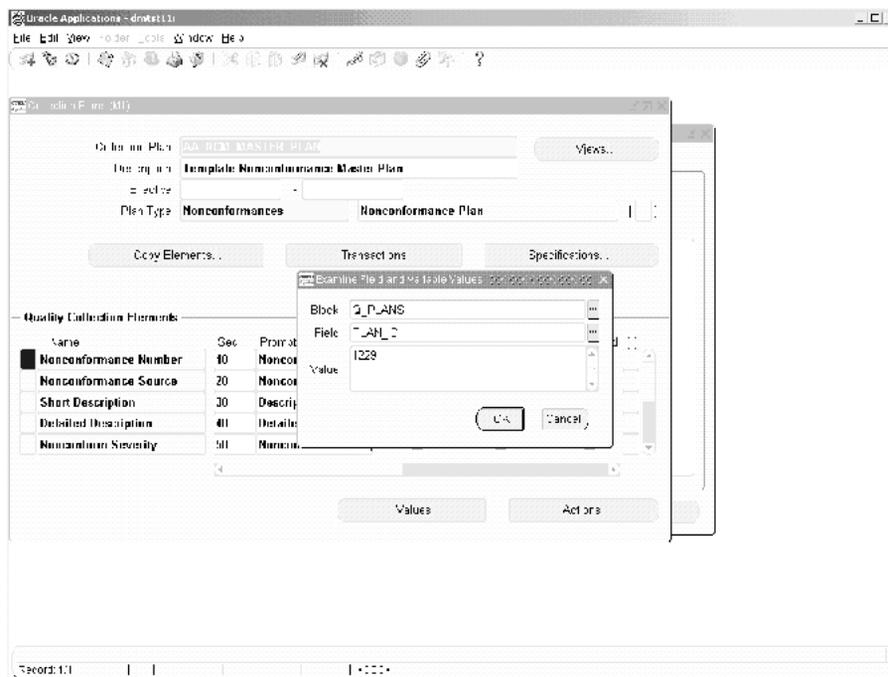
4. Select Q_PLANS from the Block list of values.

5. Select PLAN_ID from the Field list of values.

6. The plan identification number is populated within the Value field.

7. Switch to the System Administrator responsibility.

8. Navigate to the Form Functions window.

9. Within the Description tabbed region, select the Function field, then select the Find (flashlight) icon. Perform a query on QA%QR% functions.

Figure 3–9   Form Functions and Parameters Field for Menu Options

10. Select the Form tabbed region.

11. Select the Parameters field within the QANCMEQR Function row. Once selected, the Editor window will display.

12. Change the ORA$QA_PLAN_ID value to the *plan identification number* of the Nonconformance Master plan that was set up in previous steps.

13. For the QANCMUQR and QANCMVQR functions, change the ORA$QA_ PLAN_NAME values (within their corresponding Parameters fields) to the plan *name* of the Nonconformance Master plan that was set up in previous steps.

14. Make similar changes for the other functions related to Dispositions (QADISPEQR, QADISPVQR, QADISPUQR).

15. Save your work.

> **Note:** For additional menu entries, if multiple Nonconformance and Disposition plans exist within the same organization, copy QA%QR% functions for each Nonconformance Master plan. Add these menu options to the responsibility of the authorized users.

Step 6 - Modify Collection Plan Details and Plan Element Prompts (optional)

The copied plans from Step 2 have the description of the plan copied from the templates. The collection plan description can be modified to be more meaningful to

the user. The collection element prompt in the copied nonconformance and disposition collection plans can be modified to suit specific user requirements.

For example, if Nonconformance Number is called Deviation Number, perform the following steps:

1. Navigate to the Collection Plans window.

2. Select the Collection Plan for which you want to modify the prompt name for the collection element. In this example, query the plans that use Nonconformance Number.

3. Within the Prompt field of the collection element, enter Deviation Number.

Figure 3–10   Modification of Plan Collection Element Prompt
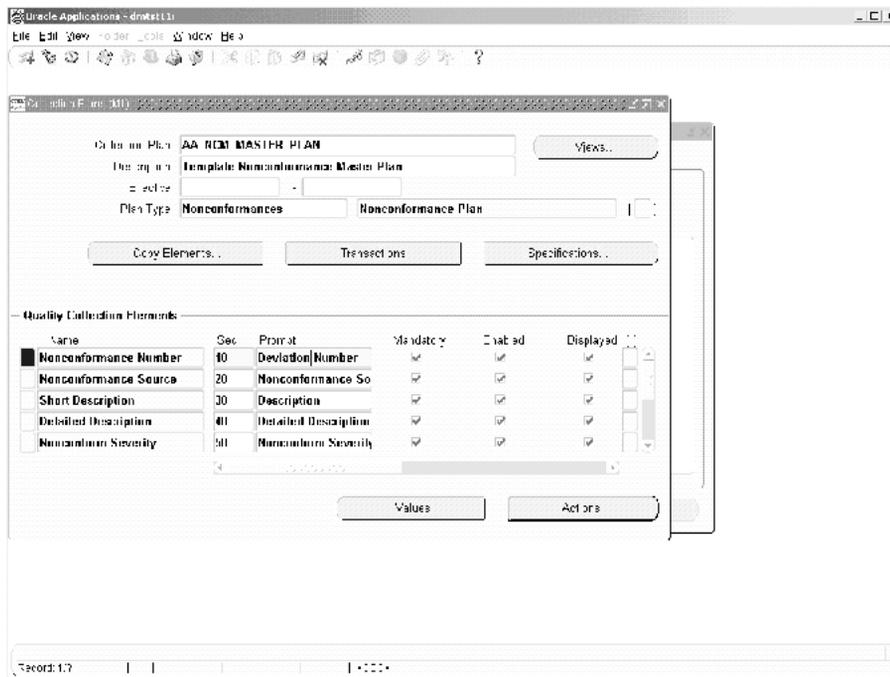
Step 7 - Update 'Execute a SQL script' Text (conditionally mandatory)

The Nonconformance and Disposition solution included seeded collection plans to log Supplier and Maintenance Nonconformance within self service. This enables

suppliers to report nonconformance using Oracle iSupplier Portal, or Maintenance Activities within Oracle Enterprise Asset Management to report nonconformance within Self Service. As part of the template plans, there are seeded actions to copy the supplier and maintenance nonconformance to the Nonconformance Master plan. The action details need to be modified to point to the correct Nonconformance Master Collection plan name that was created in Step 2.

If you decide to implement the supplier ability to log nonconformance via Oracle iSupplier Portal, or log maintenance nonconformances via Self Service, execute the following steps (after copying the corresponding template plans):

1. Navigate to the Collection Plans window.

2. Select the Supplier and Maintenance Nonconformance, stand-alone collection plans (copied from the template) from the Collection Plan list of values.

3. Select the Supplier collection element, then choose Actions.

Figure 3–11   Update to the Supplier Nonconformance Plan
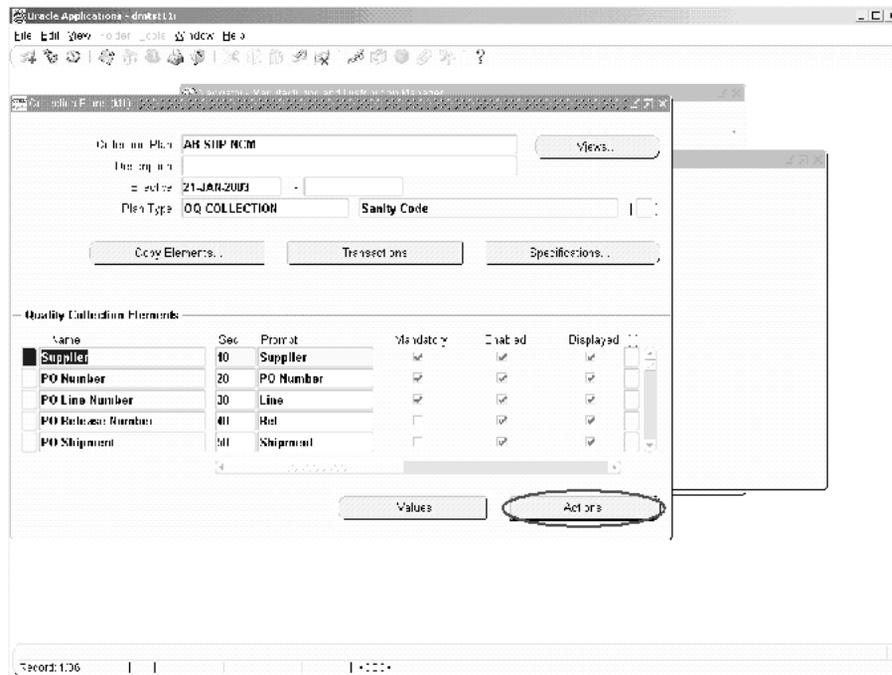
4. Choose Action Details.

Figure 3–12 Update 1 to the Action Details in the Supplier Nonconformance Plan
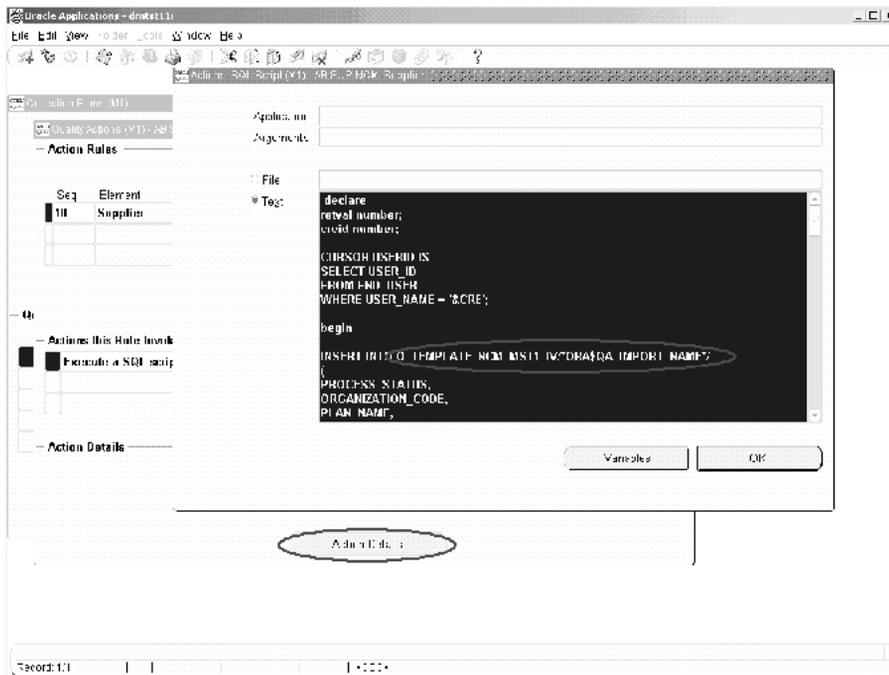
5. Change the string, TEMPLATE_NCM_MST1, to the name of the Nonconformance Master plan, set up during the previous steps.

   In the example above, the string, Q_TEMPLATE_NCM_MST1_IV, needs to be updated to Q_<Plan Name>_IV; the <Plan Name> is the Nonconformance Master collection plan that was previously set up.

   > **Note:** If the collection plan contains spaces, replace the spaces with underscores.

6. Change TEMPLATE NCM MST1 to the name of the Nonconformance Master plan, set up in the previous steps. In this case, do not replace the spaces with

underscores. See: Figure 3–13, "Update 2 to Action Details in the Supplier Nonconformance Plan".

Figure 3–13   Update 2 to Action Details in the Supplier Nonconformance Plan
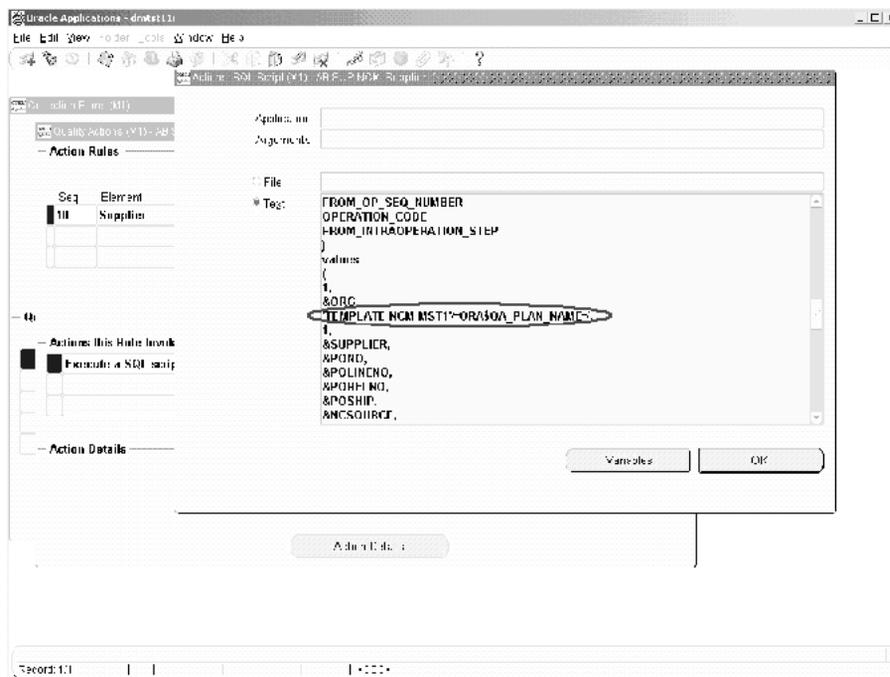
7.   Save your work.

8.   Repeat steps one through seven for the Maintenance Nonconformance plan.

Step 8 - Set Up Collection Plan Security (optional)

Depending upon the sensitivity of nonconformance and disposition information, it might be desired to restrict the access of the data to users for view, update, or creation. This might require different users to be granted different types of privileges. This step enables the Applications System Administrator to grant specific privileges to different users an user groups, for the different plans in the Nonconformance and Disposition Collection Plan structure (resulting from the collection plan copy in step 2).

For example, a Quality Manager has complete access to create, update, and view Nonconformance and Dispositions. A Receiving Inspector has access to log nonconformances, but not have access to update dispositions.

8.1: To set up a User Group and add users:

1. Navigate to the User Groups window:

2. Create a new User Group.

3. Assign users (members), whom will have the same roles and privileges, to the current user group. All users of the system should be Oracle Applications users with a valid login authority.

4. Save your work.

8.2: Grant privileges to user groups:

1. Navigate to the Grant Privileges window. In this window, any User Group can be grated privileges to perform various functions for any plan, If the Privilege check box is selected, the user group is granted that privilege for the specified collection plan.

2. Depending upon the privileges that need to be granted to each user group, select the User Group name, the Collection Plan name, and the corresponding check boxes for Enter, View, Update, and Delete results.

3. Save your work.

8.3: Set Up Master Security Profile:

To enable collection plan security, set the value for the following Profile Option to Yes:

QA: Collection Plan Security

After all the setup steps have been completed, the users will have access only to those collection plans to which they have privileges.

Step 9 - Add user defined elements to the plans (optional)

Specific business needs might require additional collection elements to capture information related to a Nonconformance or Disposition. This is accomplished by adding new collection elements and values to the collection plans, copied in step 2.

For example, if it is required to capture the Nonconformance and Disposition Costs in the collection plan, create two new elements, Nonconformance Cost and Disposition Cost.

1. Navigate to the Collection Element window:

2. Create a new element, Nonconformance Cost, with the following properties:

   ■ Element Type = Variable

   ■ Data Type = Number

   ■ Decimal Precision = 2

3. Save your work.

4. Navigate to the Collection Plans window:

5. The new collection element, Nonconformance Cost, cane either be added tot he Nonconformance Master collection plan or the Nonconformance Detail collection plan. The decision needs to be based on the respective business process.

   ■ If you want the costs to roll up to a parent plan, set up appropriate parent-child element relationships. For example, if you add Nonconformance Cost to the Nonconformance Master and Nonconformance Detail plans, then you can set up the parent-child element relationship in the following manner:

      – Parent Plan: Nonconformance Master

      – Child Plan: Nonconformance Detail

      – Parent Element: Nonconformance Cost **is the sum of Child element**: Nonconformance Cost

   ■ Where appropriate, when entering the Nonconformance Detail, enter the nonconformance cost for each line; the costs will be summed up from the nonconformance line level to the nonconformance master.

6. To keep track of updates to this element, add it to the Nonconformance Master History plan. Navigate to the Update Parent-Child Relationship page.

   ■ Parent Plan: Nonconformance Master

   ■ Child Plan: Nonconformance Master History

   ■ Parent Element: Nonconformance Cost **is copied to Child element**: Nonconformance Cost

Step 10 - Link user defined plans to the system (optional)

In some cases, it might be required to collect information in additional plans, without overloading the existing collection plans. For example, you can collect test data on a nonconformance during the analysis stage, or record the serial numbers of the nonconforming material within a separate collection plan. In these cases, you would create a new collection plan and associate it to the plan that uses the test data or serial number collection plan.

10.1: Create a collection plan for a Quality test

1. Navigate to the Collection Plan window:

2. Enter a new plan Name, Description, and Plan Type.

3. Add collection elements.

4. Save your work.

10.2: Define the Parent-Child plan relationship

1. Navigate to the Define Parent-Child Plan Relationship page:

2. Select your Nonconformance Master, as the Parent plan.

3. Enter the plan, created in Step 10.1, as the Child plan.

4. Select Immediate or Delayed from the Data Entry mode list of values.

5. Save your work.

    When you enter a Nonconformance, you can invoke the Quality test plan from step 10.1.

Step 11 - Link Corrective Action system to Nonconformance and Disposition system (optional)

If logging a Corrective Action Request (CAR) is a part of your Nonconformance or Disposition process flow, the Corrective Action system can be linked to the collection plan, corresponding to the step within your process. Refer to Part 1 for more details.

11.1: Create an element trigger, Corrective Action Request (optional)

If you want to use an element, such as Log CAR, to trigger a CAR when its value equals YES, follow the below steps:

1. Navigate to the Collection Element window.

2. Enter Log CAR as the Collection Element name, Attribute as the Element Type, and Character as the Data Type.

3. Save your work.

4. Navigate to the Collection Plan window.

5. Perform a query on your Nonconformance or Disposition plan, then add Log CAR to this plan.

6. Save your work.

11.2: Define a Parent-Child Plan Relationship

1. Navigate to the Define Parent-Child Plan Relationship page.

2. Enter your Nonconformance or Disposition plan as the Parent plan.

3. Enter your CAR plan as the Child plan.

4. If you want to enforce the logging of CARs immediately after a Nonconformance and/or Disposition is logged, select Immediate from the Data Entry mode list of values. Otherwise, select Delayed.

5. Optionally, enter Log CAR = YES, as the criteria.

Step 12 - Link the Transactional Collection Plan to the Nonconformance and Disposition system (optional)

Nonconformances can be logged during inspection, receiving, or while a WIP move transaction is performed. To leverage the ability to log a nonconformance in a transaction-integrated session, perform the following steps:

12.1: Create and enable the collection plan for a transaction

This step is required if no existing collection plan is enabled for this transaction.

1. Navigate to the Collection Plan window.

2. Enter a new Plan Name, Description, and Plan Type.

3. Choose Copy Element, then select the template collection plan for your transaction (for example, Template WIP Completion).

4. Choose Transaction, then associate this plan with your transaction (for example, Work-In-Process Completion).

5. Save your work.

12.2: Create an element to trigger Nonconformance Logging (optional)

If you want to use an element, such as Log NC, to trigger Nonconformance logging when its value equals YES, follow the following steps:

1. Navigate to the Collection Element window.

2. Enter Log NC as the Collection Element name, Attribute as the Element Type, and Character as the Data Type.

3. Save your work.

4. Navigate to the Collection Plan window.

5. Perform a query on your plan, then add Log NC to this plan.

6. Save your work.

12.3: Define a Parent-Child Plan Relationship

1. Navigate to the Define Parent-Child Plan Relationship page.

2. Enter the plan you created in step 1 as the Parent plan.

3. Enter your Nonconformance Master plan as the Child plan.

4. If you want to enforce the logging of Nonconformances immediately after transaction data is entered, select Immediate from the Data Entry mode list of values. Otherwise, select Delayed.

5. Optionally, enter Log CAR = YES, as the criteria.

   When you perform the transaction, you can invoke the transaction quality plan (step 12.1), then your Nonconformance Master.

   When a nonconformance is found independent of any transaction, invoke the Enter Nonconformance menu option, and enter a new record directly.

Step 13 - De-link Collection Plans from the Nonconformance and Disposition system (optional)

In Chapter 2, the organization of the nonconformance and disposition data was discussed. Based on your possible need to capture granular level detail of the nonconformance, some of the collection plans can be de-linked from the existing collection plan structure.

For example, if it was determined that you need only nonconformance and one disposition plan, and that you do not need the additional plans, then the follwi9ng diagram describes the steps necessary to de-link the collection plans that are not

required. In this example, the nonconformance detail and disposition header plans are de-linked from the structure.

Figure 3–14 De-linking Collection Plans
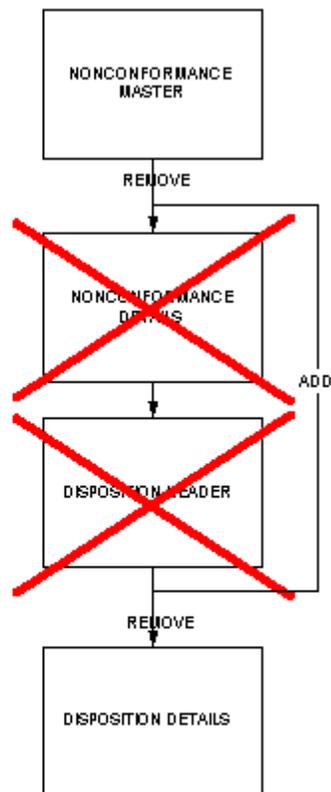
13.1: Remove unnecessary Parent-Child plan relationship

1. Navigate to the Update Parent-Child Plan Relationship window.

2. Search using Nonconformance Master as the Parent plan.

3. Remove the relationship with Nonconformance Detail as the Child plan.

4. Search using Disposition Header as the Parent plan.

5. Remove the relationship with Disposition Detail as the Child plan.

6. Save your work.

13.2: Add a new Parent-Child Plan Relationship

1. Navigate to the Define Parent-Child Plan Relationship page.

2. Enter Nonconformance as the Parent plan

3. Enter Disposition Details as the Child plan.

Step 14 - Organize the Plan Elements into Folders (optional)

The Nonconformance Master collection plan copied during Step 2 contains collection elements to capture nonconformance data from different functional areas of the enterprise (Receiving, Work in Process, Shipping). Users of this system might be interested only in the data related to their job role. For example, a receiving inspector might be interested only in the data related to receiving, such as Purchase Order or Receipt, and not the entire set of collection elements.

You can use Folders functionality available with Oracle Applications for the modes of enter, update, and view of collection plans. In Oracle Quality, Folder Tools can be enabled for Enter, Update, and View Quality Results.

See Also

Folder Tools, *Oracle Applications User's Guide*

Step 15 - Set Up Profile Options (optional)

If you expect a large number of nonconformance and disposition records, then to improve performance, set the following profile option value to Never: QA: Update Quality Results Autoquery.

Step 16 - Setup within other modules (conditionally mandatory)

Because this solution provides the features to send e-mail notifications and workflow notifications, it is required for users to be set up as employees, within their e-mail addresses, in Oracle HR and/or to be set up as Oracle Applications Users.

See Also

Oracle HRMS

Oracle Applications System Administrator Guide

Considerations Prior to Implementation

The following are considerations to consider before implementation:

- Maintain a Reference Copy of Collection Plans

Maintain a Reference Copy of Collection Plans (optional)

After completing the setup process, prior to implementation, you might want to maintain a Reference Copy of the real collection plans that you intend to implement. This Reference set of plans can then be copied to collection plans that will be implemented and used. The Copy Collection Plan process can be utilized. This approach eliminates the need to copy from the template plans and modify the same for the implementation, within each organization.

If you plan to deploy these plans multiple times without repeating the above setup steps, it is a good idea to preserve these plans with all the modifications in a reference copy that is not used for data entry. Copy from the reference to real plans.

The following diagram depicts the implementation process of the consideration discussed above:

Figure 3–15   Reference Copy of Collection Plans Diagram

Your nonconformance and disposition solution plans are ready for implementation.

4

Nonconformance Lifecycle

This chapter details the procedures used to track and implement dispositions, using the Solutions Templates. These procedures include the various methods to initiate the disposition, assign dispositions, and set up automated execution of dispositions. This chapter contains the following topics:

❏ Process Flow Chart on page 4-2

❏ Process Steps on page 4-3

Process Flow Chart

The following process flow chart illustrates the various steps in the nonconformance lifecycle, including logging a nonconformance, assigning the nonconformance to specific individuals for action, and final resolution of the nonconformance.

Figure 4–1   Process Flow for Nonconformance Lifecycle
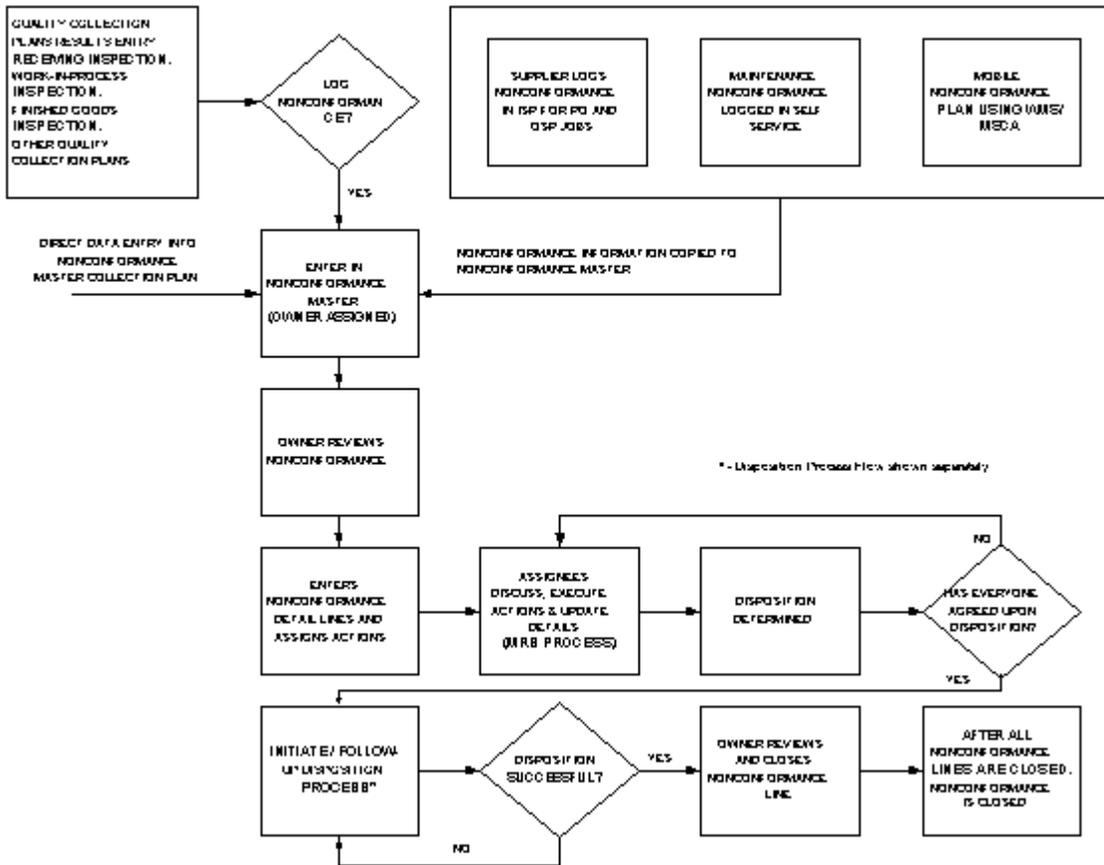
Process Steps

Identification of Nonconformance and its Source

There are many nonconformance sources that represent different functional areas within the Supply Chain.

- Quality Inspection Collection plans for receiving, work-in-process, and finished goods

- Other quality collection plans, such as testing, and packaging

- Nonconformance identified by suppliers

- Equipment nonconformances

- Nonconformance logged during Mobile Inspection using WMS/MSCA

Chapter 3 explained how to link a quality inspection plan to the nonconformance set of collection plans. The steps to link a supplier and maintenance nonconformance plan to the Nonconformance Master collection plan was also discussed.

For mobile nonconformance collection plans, a stand-alone plan needs to be created. It will create the nonconformance within the Nonconformance Master collection plan. This is explained in Chapter 5.

Logging the Nonconformance

Once the nonconformance source is determined, the nonconformance can be logged. The following section describes how the nonconformance is logged for different sources that were identified above.

Supplier Nonconformance

A supplier can log a nonconformance prior to shipment for the purchase order line of the item, or for an outside processing job, using Oracle iSupplier Portal. Prior to using the Supplier Nonconformance plan within Oracle iSupplier Portal, the plan should be associated with the Self Service Shipments and Self Service Outside Processing transactions in the collection plan definition, with any collection triggers that might be applicable. Some of the steps for logging a Supplier Nonconformance are explained below:

1. Within Oracle iSupplier Portal, the supplier selects the Shipments tabbed region and then selects Quality.

2. Search for the Purchase Order related to the nonconformance for the portion to be shipped. If the supplier is authorized to report non-material nonconformance, a dummy purchase order and shipment needs to be created.

3. Select the link within the Quality Plans column, within the Quality Shipments Results table.

4. Choose the pen icon within the Enter Quality Results column. Select the Supplier Nonconformance collection plan that was copied during setup.

5. The supplier enters the details about the nonconformance. This information is dynamically propagated to the Nonconformance Master plan, and a notification is sent to the e-mail address specified while entering the collection plan result. The e-mail address is internal personnel (buyer, supplier quality engineer).

Receiving Nonconformance

If, during receiving inspection, a nonconformance is found, the receiving inspector can log a nonconformance. The applicable inspection collection plan must be set up as a parent to the Nonconformance Master. Some of the steps to log a Receiving Nonconformance are explained below:

1. The receiving inspection plan should have a collection element, such as Log Nonconformance, as one of the elements.

2. Parent-Child relationships should be set up between the receiving inspection plan and the Nonconformance Master to trigger the nonconformance logging.

3. The receiving inspector inspects the received material and enters the inspection results in the receiving inspection collection plan.

4. If the inspector finds a nonconformance, he records the nonconformance as a child of the receiving inspection collection plan.

5. When the nonconformance is logged, the related purchase order's data elements and other transaction context data elements default.

6. After the nonconformance is logged in the nonconformance master, an e-mail notification or workflow notification is sent to the specified e-mail address.

Work In Process Nonconformance

Nonconformances can be found during in-process inspection of semi-finished assemblies, finished goods inspection when the WIP job is completed, or during other WIP activities. Some of the steps required to log a nonconformance in WIP are listed below.

1. The Nonconformance Master collection plan can be associated with the respective WIP transaction, such as Move transaction, and Job Completion transaction.

2. Parent-Child relationships should be set up between the WIP inspection plan and the nonconformance master to trigger the logging of the nonconformance.

3. During WIP inspection, if the inspector or any authorized individual finds a nonconformance, it can be logged by initiating the Nonconformance Master collection plan.

4. When the nonconformance is logged, the job related data elements and other transaction context data elements will default.

5. After the nonconformance is logged in the Nonconformance Master, an e-mail notification is sent to the specified e-mail address.

Inventory Nonconformance

If nonconformances are found in material that resides in inventory, the Nonconformance Master needs to be initiated in direct data entry mode and the relevant information of the nonconformance, including the item, subinventory, locator, lot, and serial information can be entered.

Customer Nonconformance

Customer nonconformance can fall into two categories. The first category is when a customer reports a nonconformance in the shipped product at their site, but does not ship back the material. In this case, the Nonconformance Master collection plan can be initiated in the direct data entry and details on the nonconformance, including the entry of customer and sales order details. Subsequent disposition might require submitting a formal response to the customer.

The second category is when a Returned Material Authorization (RMA) has been issued and the nonconforming product is returned by the customer. The steps associated with this type of nonconformance is similar to Receiving Nonconformance, with the exception of the data elements being related to the customer and sale order, and not supplier information. After the returned material is received, the review and disposition is carried out.

Associating the nonconformance plans to the Service Request System, providing a mechanism to trigger nonconformance from Service Request, can also capture the Customer Nonconformance.

Maintenance Nonconformance

For a nonconformance that needs to be reported on maintenance equipment, the authorized user should, within Oracle Enterprise Asset Management (eAM), invoke the Maintenance Nonconformance Plan and enter the details on the nonconformance, during operation completion or work order completion. eAM transactions should be associated with the maintenance nonconformance plan before nonconformance can be logged.

After the nonconformance is logged, the information is dynamically propagated to the Nonconformance Master plan. An e-mail or workflow notification is sent to the specified personnel.

Nonconformance through Mobile Devices (WMS/MSCA)

If it is common business practice to log nonconformances via a mobile device, a stand-alone mobile collection plan needs to be created and associated with the appropriate mobile transactions. The details on logging nonconformance via mobile devices are described in Chapter 5.

Non-Material Nonconformance

Nonconformances reported in an enterprise do not need to be restricted to material nonconformances. There can be a business process related nonconformance, or audit related nonconformance. These can also be logged in the Nonconformance Master, using the collection elements, Process Step and Process Name. To track the non-material related nonconformance, the implementor can add data elements to capture the information.

Direct Data Entry into Nonconformance Master

You can invoke the Nonconformance Master, using the direct data entry mode, and enter the nonconformance.

Implementation Considerations

When a nonconformance is logged within the Nonconformance Master, action rules can be set up to default the nonconformance owner, based on the nonconformance type, severity, and priority. Some of the other actions are defaulting the e-mail address based on the owner, date opened, date closed, and days to close.

Review of Nonconformance by Owner

After the nonconformance owner receives an e-mail or workflow notification, the owner reviews the nonconformance and decides the course of action to be taken.

After review, if it is determined that the owner is not the correct owner, the nonconformance can be reassigned to a new owner. Optionally, it might be desired to segregate the nonconforming material.

Segregation of Nonconforming Material

If the nonconforming material needs to be segregated, it can initiate automatically by using the segregation plans, WIP Component segregation and Inventory segregation. They are children of the Nonconformance Master plan.

The WIP Component Segregation Plan can be used to return a nonconforming component from a job to a MRB subinventory. The Inventory segregation plan can be used to create a move order to move nonconforming material from one location to another. Only a move order is created using segregation. The move order should be transacted to move it to a MRB subinventory.

Details on the mandatory and optional data elements required to initiate the segregation are described in the appendix. In the two segregation plans, there is an action associated with the collection element, Default Values. When the value of Default Values is YES within the segregation plan, information from the Nonconformance Master will default into the segregation plans; the user can modify that defaulted information. E-mail or workflow notifications are sent to indicate the segregation status.

Nonconformance Details and Action Assignment

In this process step, the nonconformance owner enters additional nonconformance detail. The details entered can include the breakdown of the total nonconforming quantity into separate lines. This groups the nonconforming material by defect type. After the nonconformance detail lines are entered, the nonconformance owner can assign specific actions to individuals using the collection elements, Action Type, Action Description, and Action Assigned To. In addition, the owner can use collection elements, Note Type and Notes to enter any information related to the nonconformance.

When either of the collection elements, Send Email or Workflow Notification, equals YES, an e-mail or workflow notification is sent to the next individual to whom the action is assigned on the nonconformance line.

Material Review Board (MRB) Process and execution actions

Upon receipt of the e-mail or workflow notification, the assignee will view the nonconformance, using the menu option, View Nonconformance, within Oracle Quality. If an update is required, the assignee will use the Nonconformance Details

collection plan and the collection elements, Action Executed, Action Executed By, Note Type, and Notes. This indicates the actions performed to review the nonconformance.

The assignee can request the owner or any other individual to perform additional review and testing on the nonconformance line by utilizing the action assignment collection elements. This step can be executed multiple times on a nonconformance line to achieve the MRB discussion and approval to disposition the nonconformance.

The history plan for Nonconformance Details, for a given nonconformance line, will list all discussion that has existed, associated with the current nonconformance line.

Determine Disposition

After the review process has been completed for the nonconformance line, a disposition on the nonconformance is determined. It can be the responsibility of the owner to approve the disposition. Depending on the disposition chosen, automated disposition execution is accomplished.

Initiate Disposition

The dispositions are broadly classified into the following types:

- Accept-as-is: No action required

- Rework or Repair: Depending on the specific disposition action for rework, automated execution of the disposition can be initiated.

- Scrap: Depending on the specific disposition action for scrap, automated execution of the disposition can be initiated.

- Return to Vendor (RTV): This action requires the manual execution of the RTV transaction in inventory.

Depending on whether the disposition requires action and if it needs to be executed manually or automatically, the nonconformance owner can initiate disposition in the respective module or initiate the disposition process using the disposition set of collection plans (See: Process Steps on page 6-3).

Review Nonconformance Status Closure

After the successful execution of the disposition actions, the nonconformance owner closes the appropriate nonconformance line and when all the lines have been closed, the nonconformance is closed in the Nonconformance Master collection

plan. Also, the nonconformance status can be changed to VOID or REOPENED, if required.

5

Logging Nonconformances using MSCA and Oracle Warehouse Management

For customers who intend to log nonconformance via Mobile Supply Chain Applications (MSCA) and/or Oracle Warehouse Management, additional setup steps need to be executed to utilize the Nonconformance and Disposition solution. By performing the steps below, nonconformance can be logged using the mobile device and subsequent review and progress of the nonconformance can be performed using the desktop. This chapter contains the following topics:

❏ Process Steps on page 5-2

Process Steps

Following are the steps that need to be performed for logging nonconformances using MSCA and Oracle Warehouse Management. This section includes the following topics:

- – Setting Up on page 5-2
- – Logging Nonconformances on page 5-3

Setting Up

Create a stand-alone Collection Plan

A stand-alone mobile nonconformance plan needs to be created with a subset of elements from the Nonconformance Master. The elements should be relevant to the transaction that most likely will enter the nonconformance.

Because quality collection plans can be initiated from several mobile transactions that broadly fall into the categories of Receiving, Work In Process, and Inventory, if appropriate stand-alone collection plans, for each functional area, can be created. Refer to Appendix D for examples and the steps involved in creating the stand-alone collection plans.

Create an Action to Copy Nonconformance Information to the Nonconformance Master

The next step is to create an action in the mobile collection plan that will copy the nonconformance information from the mobile plan to the Nonconformance Master. This action is an Execute a SQL Script. An example of this is covered in Appendix D.

Associate the Plan with the Respective Mobile Transaction

The next step is to associate the new collection plan with the appropriate mobile transaction. Some mobile transactions that can be associated to the stand-alone collection plans are Mobile Completion, Mobile License Plate Number Inspection, Mobile Move, and Mobile Receiving.

Logging Nonconformances

Enter a Nonconformance using MSCA and/or Oracle Warehouse Management

When performing the mobile transactions in MSCA or Oracle Warehouse Management, if a nonconformance needs to be logged, you can invoke the appropriate stand-alone quality collection plan that was created in previous steps. You can then record the nonconformance. The background action populates the Nonconformance Master and an e-mail or workflow notification is sent to the Nonconformance owner.

Nonconformance Review and Other Steps in the Lifecycle

After the nonconformance owner receives a notification, he or she can query on the nonconformance via the forms application. The owner can review the nonconformance and perform other steps in the lifecycle, as described in Chapter 4.

6

Disposition Lifecycle

This chapter details the procedures used to track and implement dispositions, using the Solutions Templates. These procedures include the various methods to initiate the disposition, assign dispositions, and set up automated execution of dispositions. This chapter contains the following topics:

❏ Process Flow Chart on page 6-2

❏ Process Steps on page 6-3

Process Flow Chart

The following process flow illustrates the various steps in the disposition lifecycle including initiating a disposition, assigning it to specific individuals for action, and its final resolution.

Figure 6–1   Process Flow for Disposition Lifecycle
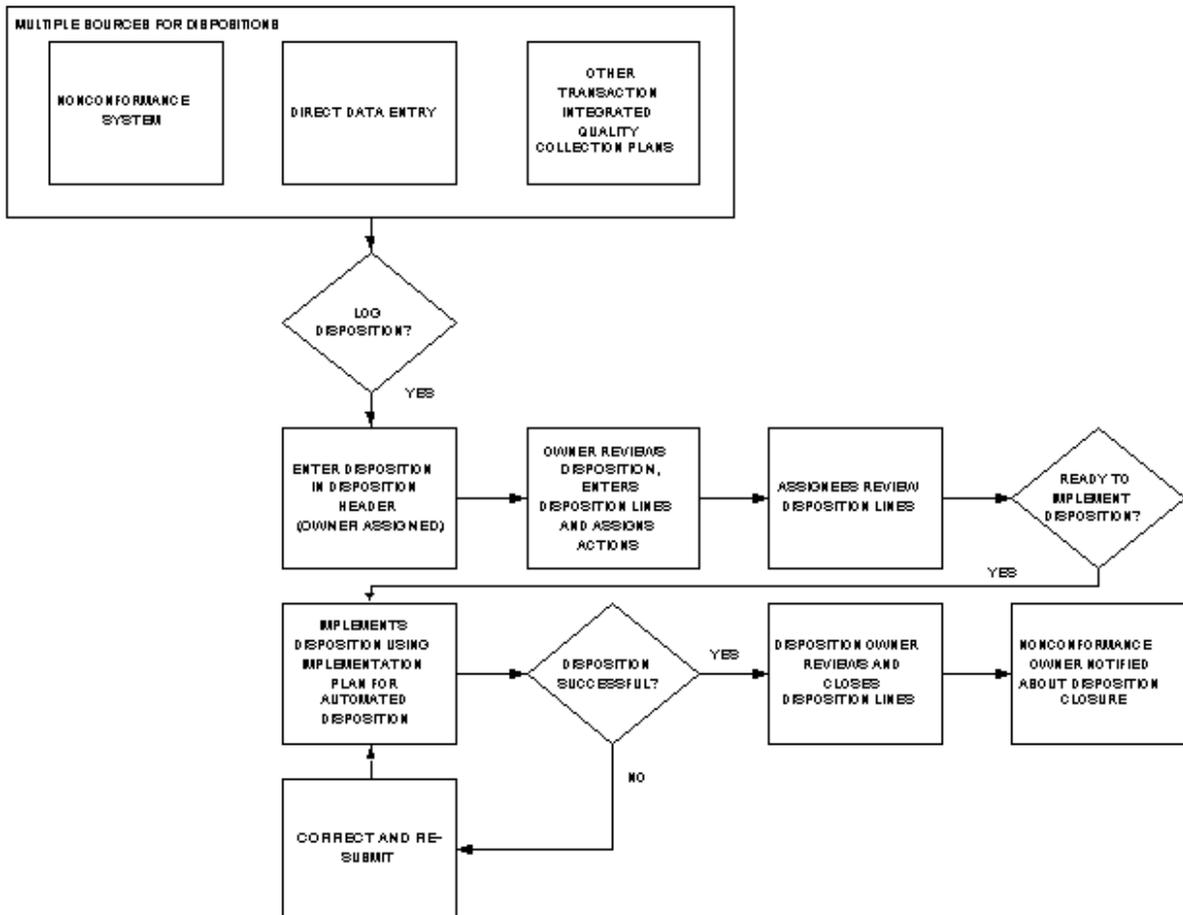
Process Steps

Identification of Disposition and its Source

Depending on the configuration chosen, the disposition tracking and execution system can exist independently or linked to the nonconformance tracking system. The disposition set of collection plans can be initiated via direct data entry or transaction association. See: Setup Steps on page 3-3 for information on linking collection plans and associating them with transactions.

Logging a Disposition

When the decision has been made to log a disposition, the disposition header plan is invoked; you are required to enter the disposition source. If you navigated to the disposition header from the nonconformance system, the nonconformance number and associated information is copied to the disposition header.

Rules can be set up to assign an owner to the disposition, based on the disposition source. If you set Default Values to YES, some elements are defaulted from the nonconformance master. Set Default Values to YES only when a nonconformance set of plans are associated with the disposition system.

The details on the disposition header include the disposition source, source reference identifier, item, disposition owner, the source owner, and respective e-mail addresses. Background actions automatically update Date Opened, Date Closed, and Days to Close.

When the disposition is logged, an e-mail or workflow notification is sent to the disposition owner and the source (nonconformance) owner.

Review by Disposition Owner and Action Assignment

After the disposition owner is notified about the disposition, the disposition uses the View Disposition and Update Disposition menu options within Oracle Quality to view and/or update the disposition.

The disposition owner reviews the disposition and other associated information such as nonconformance information, to understand the material disposition history. The owner makes the determination of what disposition and disposition actions need to be executed.

The disposition owner enters detail lines on the disposition, using the disposition details collection plan. The Default Values can be used to default information, based on the nonconformance master (explained in the previous step).

Using the details plan, the owner can break down the disposition quantity and assign separate disposition actions to appropriate personnel.

Example 6–1   Disposition Review and Action Assignment

We will assume that a nonconformance was reported, during Work In Process (WIP) inspection, on a component for a disposition quantity of ten. The nonconformance review process determined that the component disposition involves reworking a quantity of five of the component, enabling the job to progress. A quantity of three will be returned to the vendor, and a quantity of two will be scrapped. To model this disposition, the disposition owner needs to enter three lines within the disposition details plan:

1. The first line indicates that the first disposition of five will be REWORK, and the action is to create a rework job to rework the component (disposition action: WIP_REWORK_JOB).

2. The second line indicates that the disposition is Return to Vendor (RTV) for a quantity of three. Because the disposition was return to vendor for a nonconforming component in WIP, this requires a two-step process with two separate lines. The first line contains a RTV disposition and WIP_COMP_RETURN disposition action, enabling the component to return to a Material Review Board or quarantine subinventory. The second line contains a RTV disposition and MANUAL RTV disposition action. This requires that the RTV transaction is initiated within Oracle Inventory after the nonconforming component is returned to inventory.

    > **Note:**   MANUAL RTV is not a seeded disposition action element value, however, you can easily add it. See: Setup Steps, Step 4 on page 3-3.

3. Because performing a WIP component scrap is not automated, the component scrap of two needs to be entered as two separate lines. The first line contains the SCRAP disposition and WIP_COMP_RETURN disposition action. The second line contains the SCRAP disposition and INV_SCRAP_ISSUE disposition action. INV_SCRAP_ISSUE is an Inventory Account alias for inventory scrap.

Because each disposition can be executed by different people with different job functions, the owner assigns the disposition execution, using the Action Assigned to or Implementation By collection elements.

Disposition Actions Review by Assignee

When the disposition action assignees and implementors receive an e-mail or workflow notification, they review the disposition actions to implement within the disposition details collection plan. The implementor may update the information on the disposition line to make any corrections to the current location or the condition of material to be dispositioned.

The implementation collection plans are primarily used to execute the automated disposition actions. If the disposition involves no automated execution, the implementor can update the disposition detail line with the disposition implementation.

Disposition Implementation

When the implementor is ready to implement the automated disposition action, the disposition action value determines the WIP or Inventory disposition collection plan.

After navigating to the implementation plan, the implementor can use Default Values to default information from the nonconformance master, as discussed earlier. When ready to execute the disposition action, the implementor will update the Launch Action collection element to YES, after entering the necessary collection elements for disposition execution. See: Appendix E - Collection Plans on page E-2 for information on the collection elements that need to be entered for each of the disposition actions.

The following table lists the automated disposition actions and the implementation plans containing the collection elements for executing the disposition:

Table 6–1   Supported, Automated Disposition Actions

Disposition Action	Implementation Collection Plan
Creation of Inventory Move Order (INV_MOVE_ORDER)	Inventory Disposition
Inventory Scrap (INV_SCRAP_AAI)	Inventory Disposition
Component return to inventory (WIP_COMP_RETURN)	In-Process Disposition
Component issue to job (WIP_COMP_ISSUE)	In-Process Disposition
Creation of Rework Job (WIP_REWORK_JOB)	In-Process Disposition
Add rework operation (WIP_REWORK_OP)	In-Process Disposition
Move to rework operation (WIP_MOVE_REWORK)	In-Process Disposition

Table 6–1   Supported, Automated Disposition Actions

Disposition Action	Implementation Collection Plan
Assembly Scrap (WIP_MOVE_SCRAP)	In-Process Disposition

The automated disposition actions are processed when initiated from the disposition implementation collection plans. If the disposition implementation action initiated from the collection plan fails, manual intervention is required. The implementor would need to manually correct the transaction in the respective destination module, then resubmit the transaction. After the submitted transaction succeeds, the implementor should manually update the disposition status to SUCCESS, and notify the appropriate personnel.

See Also

Appendix E - Collection Plans on page E-2 for information on the collection elements that need to be entered for each of the disposition actions

Closing Dispositions

The disposition owner reviews the disposition lines and, if they have successfully been implemented, closes the disposition lines. The disposition is closed when all lines are closed. The nonconformance owner and other personnel are notified via e-mail or workflow notification.

7

Reporting

You can generate reports on nonconformance and disposition information. Reporting on nonconformances and dispositions is important from a compliance perspective; they provide input for continuous improvement. This chapter contains the following topics:

❏ Reporting Overview on page 7-2

❏ Quality Results Report Writer on page 7-2

❏ Oracle Discoverer on page 7-4

Reporting Overview

You can generate reports on Nonconformance and Disposition information using the following tools:

- Quality Results Report Writer - suitable for reporting on a single collection plan (Nonconformance Master or Disposition Header)

- Oracle Discoverer - suitable for analyzing data across multiple plans and providing an enterprise view of nonconformances across multiple organizations.

This section includes the following topics:

  – Quality Results Report Writer on page 7-2

  – Oracle Discoverer on page 7-4

Quality Results Report Writer

You can utilize Oracle Quality Results Report Writer to build simple reports on nonconformances and dispositions, based on a single collection plan. Following is a list of some of the reports that can be generated:

- All Nonconformances for a given item or assembly

- Supplier Nonconformance in a specific time period

- All Open Nonconformances

- Nonconformance Cycle Time

- Nonconformance and Defect Code Report

- Disposition Report

- Nonconformance History Report

The current functions (sum, count, average) available in Report Writer can be utilized to provide additional information on numerical collection elements.

Report Setup Example

We will define a report for the average time to close a nonconformance.

1. Navigate to the Quality Results Report Writer window.

2. Enter the following information:

   – Report Name: NCM Avg Time Closure Report

- Collection Plan: Your Nonconformance Master

- Report Title: Average Time to Close a Nonconformance

3. For report columns, list the following:

   - Nonconformance Source

   - Days to Close, Function: Average

4. Criteria: All nonconformances after March 1, 2003

Figure 7–1 Quality Results Report Writer - Report Definition

Report Output Example

Table 7–1 Example of Report Output

Nonconformance Source	Days to Close
Inventory	2.5
Receiving	3.85
Work In Process	1.5
Supplier	2.65

Oracle Discoverer

Oracle Discoverer enables you to analyze nonconformances throughout your enterprise. Data from application schema is organized into Folders within Discoverer. The following are steps to build folders for nonconformance analysis:

1. Open business area, Quality Data Collection Analysis, using the Admin edition of Discoverer.

2. Create Folders in this area from the following views:

   - Q_<NONCONFORMANCE MASTER PLAN>_V

   - Q_<NONCONFORMANCE MASTER HISTORY>_V

   - Q_<NONCONFORMANCE DETAIL PLAN>_V

   - Q_<DISPOSITION HEADER PLAN>_V

   > **Note:** <NONCONFORMANCE MASTER PLAN> refers to the name of your collection plan with spaces replaced by an underscore. the views are created dynamically when the collection plan is created or updated. The columns in the view correspond with the collection elements within the collection plan.

*Figure 7–2   Create Folder Wizard in Dicoverer Admin Edition*
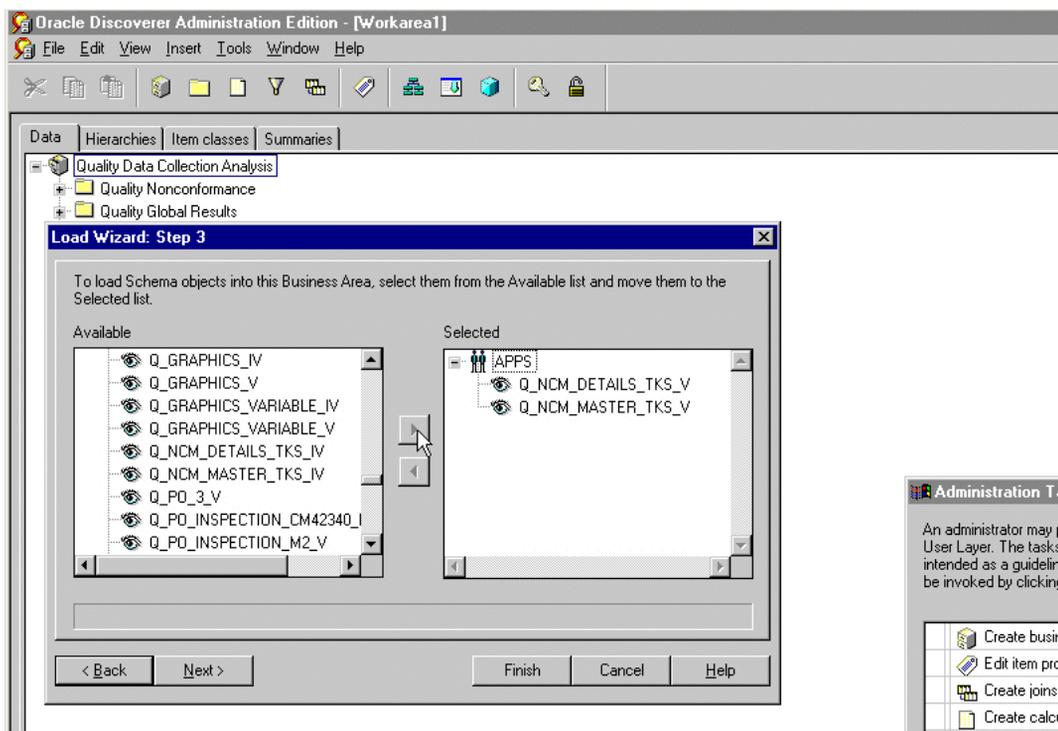
3. Create Joins for these folders:

    ■   One to Many

        –   Q_<NONCONFORMANCE MASTER PLAN>_
            V.NONCONFORMANCE_NUMBER -> Q_<NONCONFORMANCE
            DETAIL PLAN>_V.NONCONFORMANCE_NUMBER

    ■   One to Many

        –   Q_<NONCONFORMANCE MASTER PLAN>_
            V.NONCONFORMANCE_NUMBER -> Q_<NONCONFORMANCE
            MASTER HISTORY>_V.NONCONFORMANCE_NUMBER

    ■   One to Many

– Q_<NONCONFORMANCE DETAIL PLAN>_
V.NONCONFORMANCE_NUMBER -> Q_<DISPOSITION HEADER
PLAN>_V.SOURCE_REFERENCE_ID, Q_<NONCONFORMANCE
DETAIL PLAN>_V.NONCONFORMANCE_LINE_NUM -> Q_
<DISPOSITION HEADER PLAN>_V.SOURCE_REFERENCE_LINE_ID

You can perform cross-plan analysis using Oracle Dicoverer User Edition. For
example, reporting all Defects and Causes by Supplier and time period.

Figure 7–3   Oracle Discoverer Workbook for Reporting on Supplier Nonconformance
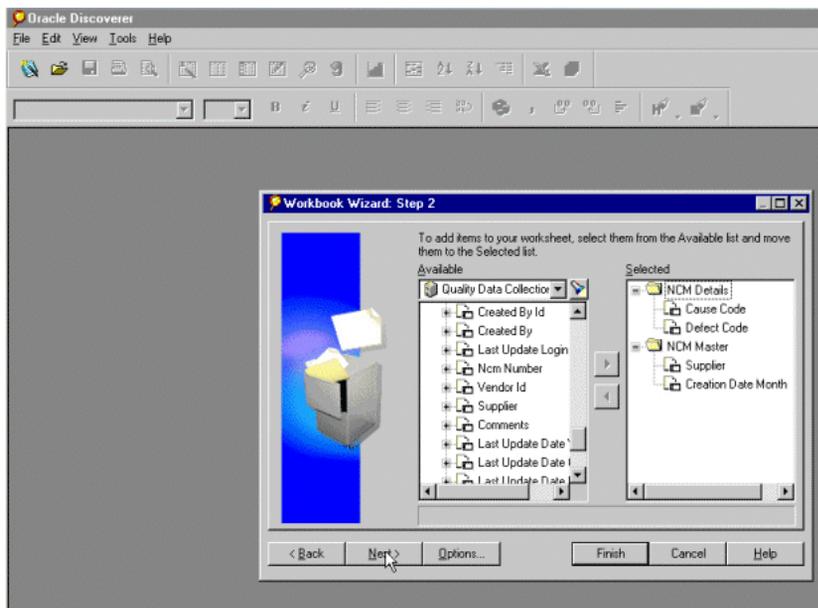
Reporting on all Nonconformances for an Assembly and its Components

You can report on all nonconformances related to an assembly. Assemblies consist
of subassemblies. Subassemblies consist of subassemblies or components. Generally,
users start with logging a nonconformance against an assembly:

Table 7–2   Nonconformance for an Assembly

Nonconformance Number	Nonconformance Item Type	Item	Component Item	Date Entered
NC123	Assembly	**Assembly**	-	Time N

You can update the item and component elements within the master record to reflect that the nonconformance is in the subassemblies:

Table 7–3   Nonconformance for an Assembly

Nonconformance Number	Nonconformance Item Type	Item	Component Item	Date Entered
NC123	**Component**	Assembly	**Subassembly1**	Time N+1

You can repeat this for multiple levels within a Bill of Material:

Table 7–4   Nonconformance for an Assembly

Nonconformance Number	Nonconformance Item Type	Item	Component Item	Date Entered
NC123	Component	**Subassembly1**	**Subassembly2**	Time N+2
NC123	Component	**Subassembly2**	**Component**	Time N+3

The Nonconformance History plan would record as follows:

Table 7–5   Nonconformance History Plan

Nonconformance Number	Nonconformance Item Type	Item	Component Item	Date Entered
NC123	Component	Subassembly2	Component	Time N+3
NC123	Component	Subassembly1	Subassembly2	Time N+2
NC123	Component	Assembly	Subassembly1	Time N+1
NC123	Assembly	Assembly	-	Time N

You can review the progress of the above nonconformance. It displays that initially the nonconformance NC123 was reported for Assembly, at date/time N. Subsequent review and updates indicated that the component is the nonconformance cause. This nonconformance can be found by querying on

NONCONFORMANCE_NUMBER from Q_<Nonconformance Master History>_V where ITEM=<Assembly to be searched>.

You can also generate the type of report (above) in Oracle Discover by creating a workbook, based on Q_<NONCONFORMANCE MASTER PLAN>_V + Q_<NONCONFORMANCE MASTER HISTORY>_V with these items from Q_<NONCONFORMANCE MASTER PLAN>_V folder and the criteria to be Q_<NONCONFORMANCE MASTER HISTORY>_V.ITEM=<Assembly to be searched>.

You can report all nonconformances of components involved in manufacturing orders that manufacture a specific assembly.

To report all nonconformances of components involved in manufacturing orders for a specific assembly:

1. Find all manufacturing orders that manufacture the specific assembly. This utilizes WIP's Manufacturing Orders folder. The criteria is Item = <Assembly to be searched>.

2. Find all material transactions issued to these manufacturing orders. This utilizes the existing join between Oracle Inventory's Material Transactions. The criteria is Mfg Order Id = Manufacturing Orders.Mfg Order Id.

3. Find the serial numbers of these items. This utilizes the existing join between Material Transactions and Serial Numbers folders.

4. Find all nonconformances with the specified Inventory Item Id and Serial Number. This requires a join between Serial Numbers and Oracle Quality's Nonconformance Master folder.

> **Note:** Discoverer Folders from Oracle Inventory and Oracle Work In Process business areas need to be used to execute the steps listed above. These objects are part of Manufacturing Business Intelligence, and not part of Discrete Manufacturing Family Pack. Step 3 assumes components are serial controlled.

See Also

Oracle Discoverer User's Guide

8

Tailoring Your Solution

This chapter illustrates how the solutions can be tailored to suit your organization requirements. This chapter lists only examples for tailoring your implementation. **The examples in this chapter are not part of Oracle's code; they have not been tested or certified by Oracle. Customers and implementors must use their discretion before implementing.** This chapter contains the following topics:

❏ Workflow Configuration on page 8-2

❏ Using Oracle Approval Management on page 8-5

❏ Tailoring E-mail Notifications on page 8-7

❏ Tips and Techniques on page 8-9

Workflow Configuration

This solution includes generic workflow notifications for the Nonconformance and Disposition set of collection plans. You can replace these workflows with your own workflows. You can design Workflow notification messages in your own format. Responses entered on the notification can be written back to collection plans.

For example, you can build a new workflow based on a the Disposition Detail Notification workflow:

- Send notification to the next approver (higher authority)
- Update the disposition record with an approval Reason Code from the notification

Refer to Appendix F for a list of seeded workflow notifications provided as part of the solution.

Starting Workflow Builder

1. Copy the seeded workflow, Quality Generic Process, to a new workflow name.
2. Modify the copied workflow.

Figure 8–1 Workflow Process Diagram for Nonconformance and Disposition Notification
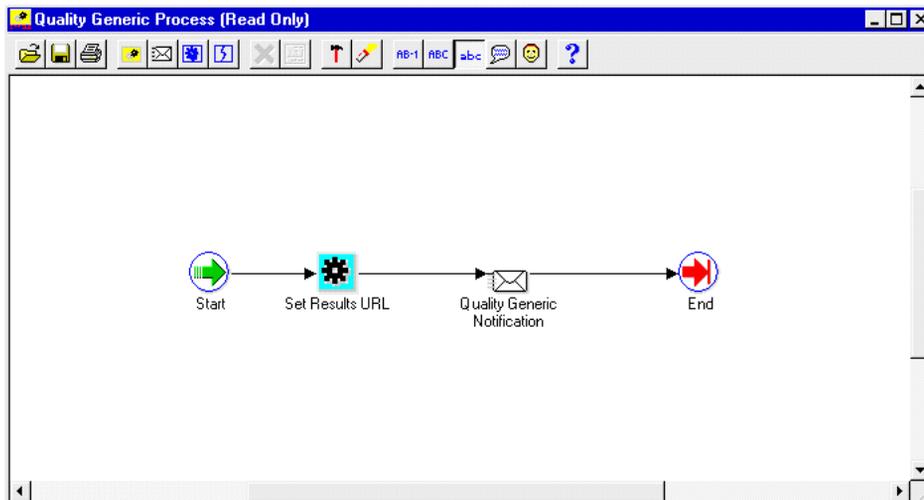
Figure 8–2   Modified Workflow Process Diagram for Nonconformance and Disposition Notification

3. Add a new item attribute, X_APPROVAL_REASON, to this workflow.

4. Display this item attribute within the message body of the current workflow.

5. Add a call to the standard qa_results_wf_pkg.process_update procedure, within the Process Updates step. It can then write back all item attributes with an X_ prefix. This includes the Approval Reason.

6. Add a call to custom PL/SQL code for finding approver, within the Find Approver step. Sample PL/SQL code to achieve this is illustrated in Appendix C. This sample code is for illustration purposes only, and has not been tested or certified by Oracle.

Oracle Quality Setup

1. Add an Approval Reason element to the Disposition Detail collection plan (See: Step 9 within Chapter 3).

2. Replace the generic workflow, specified within the Workflow action (associated with the Send Notification element), with your new workflow.

3. Add a new token, X_APPROVAL_REASON, to the Workflow action (associated with the Send Notification element) within the Disposition Detail. Map it to the Approval Reason element within the Disposition Detail.

See Also

Using Oracle Approval Management

The Oracle Approval Management application can be utilized for managing nonconformances and dispositions. This application enables you to define business rules governing approvals. For example:

- IF Severity = MEDIUM, then one approval is required.
- IF Severity = HIGH, then two approvals are required.

Once the rules have been defined, the workflow uses APIs (Approval Management) to find the next approver (Step 6) until all approvals are obtained or rejected.

Guidelines for Setting Up the Approval Process

1. Register Nonconformance and/or Disposition as a new transaction type.

2. Create Transaction attributes (Severity, Urgency, Nonconformance Type), which are used in rules to determine approvers.

3. Define Approval Rules.

4. In the first step of your workflow process, call ame_api.setFirstAuthorityApprover with the user specified in the Send Notification To item. If you are using Oracle Approvals Management to determine the first approver, call ame_api.getNextApprover to obtain the identification of the first approver.

5. During the Find Approver step of your workflow process, call ame_api.getNextApprover to obtain the identification of the next approver.

6. If ame_api.getNextApprover returns and empty ame_util.approverRecord, the transaction is approved.

7. During the Notification step, call ame_api.updateApprovalStatus. This sends the approval status to Oracle Approvals Management.

See Also

How Should a Workflow use the Oracle Approvals Management API to Manage Approvals?, *Oracle Approvals Management Implementation Guide, Appendix C*

Oracle Workflow User's Guide

Oracle Workflow Administrator's Guide

Oracle Workflow API Reference

Oracle Workflow Developer's Guide

*Oracle Workflow Customization*, Oracle White Paper, August 2002

Tailoring E-mail Notifications

You can modify all e-mail notification message text, according to your business conventions. For example, you can include the Personal Home Page URL of Oracle Applications. Recipients of the e-mail are then easily directed to Oracle Applications, enabling ease in Nonconformance and Disposition response.

To tailor e-mail notifications:

1. (N) Quality: Setup > Collection Plan

2. Perform a query on the collection plan associated with the notification needing modification.

3. Select the Send Email element.

4. Choose Action.

5. Select the Send an electronic email notification action, then choose Action Details.

6. The Text area contains the notification's message text.

Figure 8–3   E-mail Alert with Oracle Applications' URL
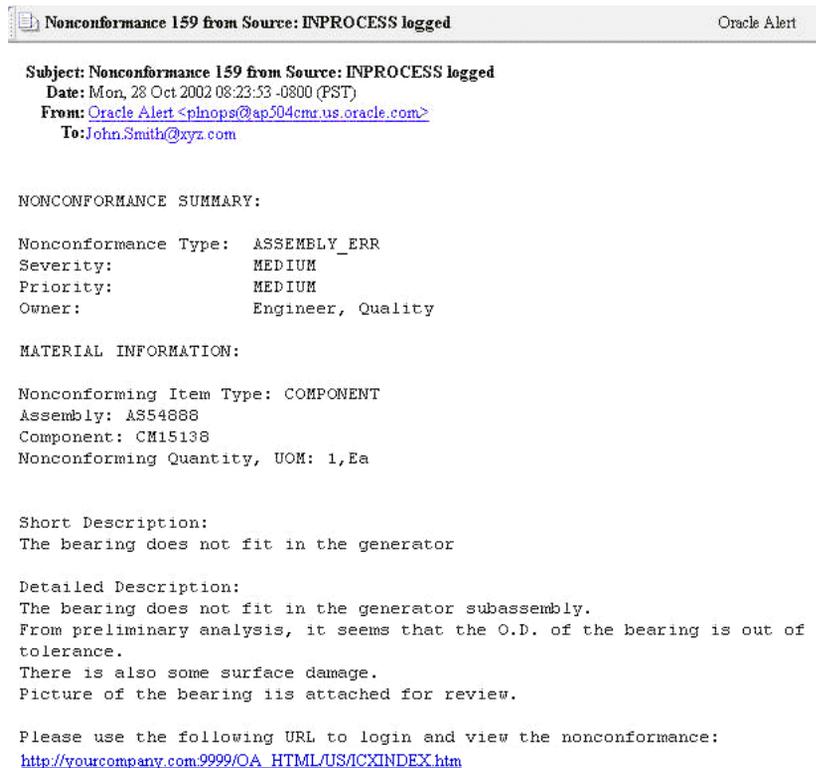
Tips and Techniques

This section includes the following topics:

- Field Security on page 8-9
- Derive User Information using Assign-a-Value on page 8-10
- Lookup Feature Using SQL Validation Strings on page 8-11
- Dependent List of Values on page 8-12
- Custom Reports on page 8-13

Field Security

Depending on your business needs, it might be desirable to make a critical element within a collection plan protected from update by specific users. For example the Disposition Status should be protected from update, within the Disposition Header plan, by the MFG and PROJMFG users. Below are the steps used to set this scenario up:

Step 1: Create a collection element to control record saving

1. (N) Quality: Setup > Collection Element

2. Enter Save (or any unused name) as the Collection Element name, Attribute as the Collection Element Type, and Character as the Data Type.

3. Save your work.

Step 2: Add elements and actions to your plan

1. (N) Quality: Setup > Collection Plan

2. Perform a query on your Disposition Header plan, and add the collection element, Save. Make sure it is enabled but not displayed.

3. Add an action to Save.

4. Action Trigger: When Save = 2

5. Action: Reject the input with the message, "this record is protected from update by the current user."

6. Add the current action to Disposition Status. When Disposition Status is entered, assign a value to Save with the following SQL script:

```
SELECT c
```

```
FROM (SELECT 2 c from dual
WHERE: parameter.user_id in (1003612, 1003614)
-- user id of users that should not be able to update the Disposition Status
UNION ALL
SELECT 1 FROM dual)
WHERE rownum = 1
```

With this action in place, when MFG users (1003612) and PROJMFG users (1003614) attempt to update and save the disposition status, their input will be rejected and a message will display.

Derive User Information using Assign-a-Value

Information about a user, such as e-mail address and telephone number, can be retrieved by using the action, Assign-a-Value, with a SQL statement. This technique is used often. For example, the Owner collection element assigns a value to Owner E-mail, based on the following SQL query:

```
SEKECT EMAIL_ADRESS, NULL
FROM PER_EMPLOYEES_CURRENT_X
WHERE FULL_NAME = &OWNER -- &OWNER token maps to the Owner element.
```

Another example involves deriving the current user's telephone number information. This example is not included in the solution.

Setting up telephone information derivation:

1. Navigate to the Collection Element window (N) Quality: Setup > Collection Element. Create a collection element.

2. Navigate to the Collection Plan window (N) Quality: Setup > Collection Plan.

3. Query the plan that will receive the Telephone Number collection element.

4. Add the Telephone Number element to the element block.

5. Select a mandatory element and then choose Actions. Add the following action:

```
IF <collection element> is entered, assign a value to Telephone Number with
SQL:
    SELECT p.work_telephone
    FROM PER_PEOPLE_F P, FND_USER U
    WHERE P.PERSON_ID = U.EMPLOYEE_ID AND
    U.USER_ID =: PARAMETER.USER_ID AND
    ROWNUM <= 1
```

> **Note:** This SQL string is used for example purposes. It is not part of Oracle's code; it has not been tested or certified by Oracle. Customers and implementors must use their discretion before implementing.

6. Save your work.

Lookup Feature Using SQL Validation Strings

SQL can be utilized as an element's list of values. This is widely used in this solution. For example, the Source Owner collection element list of values is based on the following SQL query:

```
SELECT pecx.full_name
FROM per_employees_current_x pecx, fnd_user fu
WHERE pecx.employee_id = fu.employee_id
ORDER by full_name
```

Using SQL as the list of values of an element will simulate a lookup feature. For example, Supplier Contact Lookup (not included in the solution).

Setting up a SQL as a list of values:

1. Navigate to the Collection Element window (N) Quality: Setup > Collection Element.

2. Create a Supplier Contact collection element.

3. Enter the following SQL Validation String:

```
SELECT p.first_name ll ' ' ll p.last_name ll ' ' ll
p.area_code ll '-' ll p.phone_code, v.vendor_name description
FROM PO_VENDOR_CONTACTS P, PO_VENDOR_SITES S, PO_VENDORS V
WHERE P.VENDOR_SITE_ID = S.VENDOR_SITE_ID
AND S.VENDOR_ID = V.VENDOR_ID
ORDER BY 2, 1
```

4. Navigate to the Collection Plan window (N) Quality: Setup > Collection Plan.

5. Query the plan that will receive the Supplier Contact collection element.

6. Add the Supplier Contact element to the element block.

7. Save your work.

You can now display this element's list of values. You can use it to find the name and phone number of a contact person, for any supplier.

> **Note:** This SQL string is used for example purposes. It is not part of Oracle's code; it has not been tested or certified by Oracle. Customers and implementors must use their discretion before implementing.

Dependent List of Values

The solution has not included any dependent lists of values. Displaying a different list of values for one element, depending on the value of another element, is a dependency example.

For example, your business requires the NONCONFORMANCE CODE element value to depend on the NONCONFORMANCE TYPE element value. The NONCONFORMANCE CODE values could be named with the following prefixes:

Table 8–1 Value Prefixes

NONCONFORMANCE TYPE	Dependent NONCONFORMANCE CODE
Electrical	E - Short
Electrical	E - No Solder
Electrical	E - Broken Lead
Mechanical	M - Damaged Component
Mechanical	M - Corrosion
Mechanical	M - Missing Pieces

After completing the following setup tasks, when users enter Electrical into the NONCONFORMANCE TYPE field, the NONCONFORMANCE CODE list of values will contain Short, No Solder, and Broken Lead.

Setting up a dependent list of values:

1. Navigate to the Collection Plan window (N) Quality: Setup > Collection Plan.

2. Query your Nonconformance plan.

3. Within the NONCONFORMANCE CODE element, choose Values. Enter the values within the above table.

4. Within the NONCONFORMANCE TYPE element, choose Actions. Enter the following actions:

- ■ IF NONCONFORMANCE TYPE is equal to Electrical, assign a value to NONCONFORMANCE CODE with value E%.

- ■ IF NONCONFORMANCE TYPE is equal to Mechanical, assign a value to NONCONFORMANCE CODE with value M%.

5. Save your work.

When users enter Electrical as the NONCONFORMANCE TYPE, the NONCONFORMANCE CODE list of values will display, Short, No Solder, and Broken Lead.

Custom Reports

You can write reports that are tailored to your business needs, using custom SQL. The *Oracle Applications System Administrator's Guide* recommends custom SQL and a concurrent process to be defined, within a customer application (in this case, custom Quality).

Setting Up a Custom Report

1. Save your SQL under the directory, <custom Quality's base path>/sql/ (See: Applications DBA Duties, *Oracle Applications System Administrator's Guide* for information on registering a new or custom application and where the Applications DBA specifies a base path for the application). Name it with your business' convention. Prefix it with custom Quality short name, and suffix it with .sql (XXCQA_NCMREP.sql).

2. Navigate to the Concurrent Program Executable window (N) System Administrator: Concurrent > Program > Executable. Define an executable with SQL *Plus program style.

Figure 8–4   Define Concurrent Program Executable

3. (N) System Administrator: Concurrent > Program > Define. Define a program, Material Review Report. For example, use the above executable.

4. Choose Parameters. Enter three parameters in the following order:

Table 8–2   Parameters

Parameter	Value Set	Corresponding Parameter in Sample SQL
Nonconformance Number	QA_SRS_PLAN	&1
Show History?	QA_SRS_YES_NO_ID	&2
Plan Prefix	QA_SRS_PLAN	&3

The value sets are predefined and used for validation of parameter values.

Figure 8–5   Concurrent Program Definition

Figure 8–6   Concurrent Program Parameters Definition

Executing the custom report:

1. Within the Manufacturing and Distribution Superuser responsibility, navigate to the Submit Request window (N) Quality: Reports > Submit Request.

2. Select Material Review Report from the Name list of values (or any name that you created while setting up), and submit the process.

See Also

Oracle Applications System Administrator's Guide

Appendix C, Oracle Quality - Nonconformance and Disposition for a description and the sample code of the custom report. **The sample code is provided for illustration purposes only**.

A

Seeded Template Collection Plan Structure

The following graphic represents a pictorial format of the seeded template collection plan structure.

Figure A–1   Nonconformance Collection Plan Structure
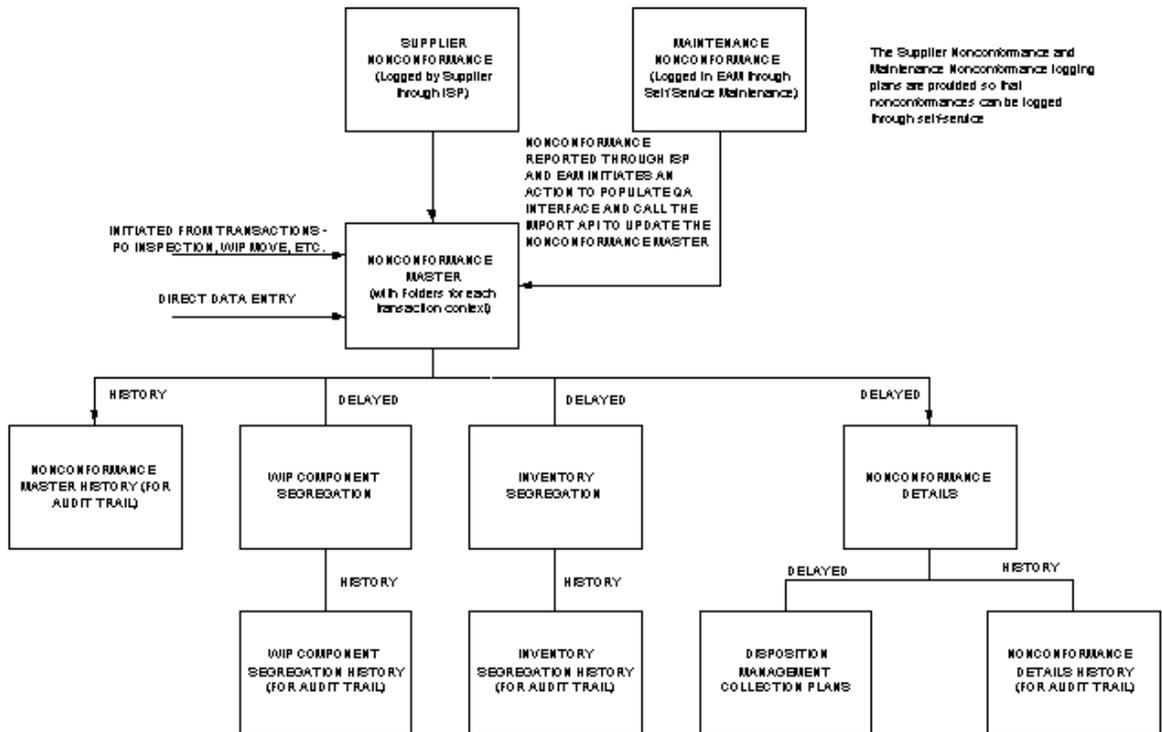
Figure A–2   Disposition Collection Plan Structure
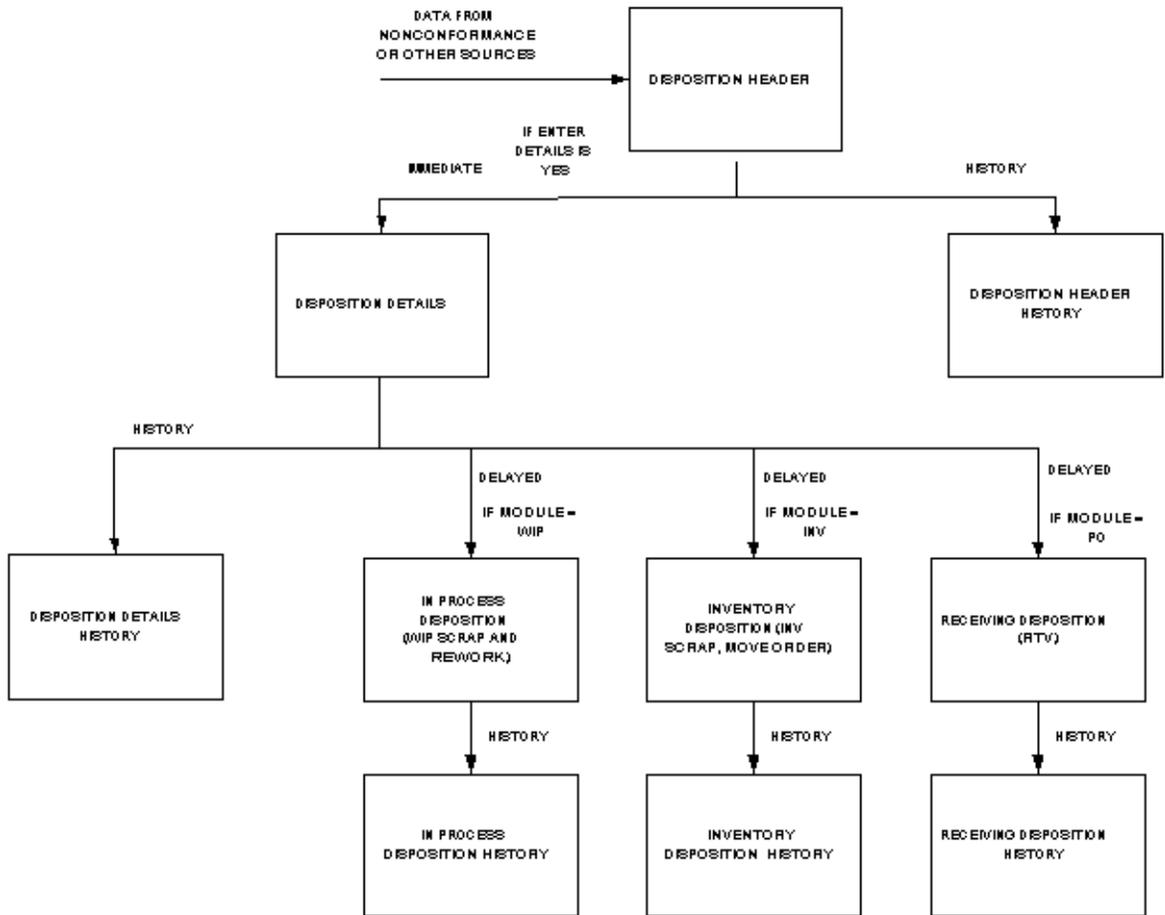
B

Seeded Template Collection Plan Details

This appendix lists all seeded template collection plans and elements for the nonconformance and disposition solution. The following topics are discussed:

- ❏ Template Supplier Nonconformance Record Plan on page B-2
- ❏ Template Maintenance Nonconformance Record Plan on page B-4
- ❏ Template Nonconformance Master Plan on page B-6
- ❏ Template Nonconformance Detail Plan on page B-11
- ❏ Template WIP Component Segregation on page B-14
- ❏ Template Inventory Segregation on page B-17
- ❏ Template Disposition Header Plan on page B-20
- ❏ Template Disposition Detail Plan on page B-23
- ❏ Template In-Process related Disposition Action and Result on page B-26
- ❏ Template Inventory related Disposition Action and Result on page B-30

Template Supplier Nonconformance Record Plan

This collection plan enables the supplier to report or log a nonconformance related to the material on a purchase order, related to an outside services job that was sent for processing to the supplier site, and log Product Change Requests or other type of improvement activities.

The Supplier Nonconformance plan contains the following collection elements:

Table B–1   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Supplier	Supplier
20	PO Number	PO Number
30	PO Line Number	Line
40	PO Release Number	Rel
50	PO Shipment	Shipment
60	Nonconformance Source	Nonconformance Source
70	Nonconform Item Type	Nonconform Item Type
80	Item	Item
90	Revision	Rev
100	Supplier Lot Number	Supplier Lot
110	Quantity	Quantity
120	UOM	UOM
130	Component Item	Component Item
140	Component Revision	Rev
150	Component Lot Number	Comp Lot Number
160	Component Serial Number	Comp Serial Number
170	Component UOM	UOM
180	Quantity Nonconforming	Quantity Nonconforming
190	Nonconforming UOM	Nonconforming UOM
200	Short Description	Short Description
210	Nonconform Severity	Nonconform Severity

Table B–1   Plan Details

Prompt Sequence	Collection Element Name	Prompt
220	Nonconform Priority	Nonconform Priority
230	Nonconformance Type	Nonconformance Type
240	Nonconformance Code	Nonconformance Code
250	Project Number	Project No
260	Task Number	Task No
270	Contract Number	Contract Number
280	Contract Line Number	Contract Line Number
290	Deliverable Number	Deliverable Number
300	Job	Job
310	From Op Seq Number	From Op Seq
320	Operation Code	From Operation Code
330	From Intraoperation Step	From Intraop
340	Email Address	Email Address
350	Distribution List	Distribution List
360	Owner	Owner
370	Send Email	Send Email?
380	Entered by User	User Name

Table B–2   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Supplier	Is entered	Execute a SQL Script	To update Nonconformance Master with Supplier Nonconformance information
2	Send Email	Equals YES	Send an electronic email notification	-

Template Maintenance Nonconformance Record Plan

The Maintenance Nonconformance plan contains the following collection elements:

Table B–3   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Asset Group	Asset Group
20	Asset Activity	Asset Activity
30	Asset Number	Asset Number
40	Nonconformance Source	Nonconformance Source
50	Maintenance Work Order	Work Order
60	Quantity	Quantity
70	Quantity Nonconforming	Quantity Nonconforming
80	Nonconforming UOM	Nonconforming UOM
90	Short Description	Description
100	Nonconform Severity	Nonconform Severity
110	Nonconform Priority	Nonconform Priority
120	Nonconformance Type	Nonconformance Type
130	Nonconformance Code	Nonconformance Code
140	Email Address	Email Address
150	Distribution List	Distribution List
160	Owner	Owner
170	Send Email	Send Email?
180	Entered by User	Entered by User
190	Workflow Notification	Workflow Notification
200	Send Notification To	Send Notification To

Table B–4   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Nonconformance Source	Is entered	Execute a SQL Script	To update Nonconformance Master with Maintenance Nonconformance information
2	Send Email	Equals YES	Send an electronic email notification	-
3	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template Nonconformance Master Plan

This plan is a central repository of all nonconformances that have been reported in your organization. The reported nonconformances can be from multiple sources such as Supplier, In-Process, Maintenance, and Service. The collection elements can be grouped into Folders to provide contextual information, as well as ease of use:

The Nonconformance Master plan contains the following collection elements:

Table B–5   Plan Details

Prompt Sequence	Folder (For reference only - not seeded)	Collection Element Name	Prompt
10	General	Nonconformance Number	Nonconformance Number
20	General	Nonconformance Source	Nonconformance Source
30	General	Short Description	Description
40	General	Detailed Description	Detailed Description
50	General	Nonconform Severity	Nonconform Severity
60	General	Nonconform Priority	Nonconform Priority
70	General	Nonconformance Type	Nonconformance Type
80	General	Nonconformance Code	Nonconformance Code
90	General	Nonconform Item Type	Nonconform Item Type
100	General	Item	Item
110	General	Revision	Rev
120	General	Quantity	Quantity
130	General	UOM	UOM
140	General	Quantity Nonconforming	Quantity Nonconforming
150	General	Nonconforming UOM	Nonconforming UOM
160	General	Nonconformance Status	Nonconformance Status
170	General	Owner	Owner
180	General	Email Address	Email Address
190	General	Distribution List	Distribution List
200	General	Send Email	Send Email?

Table B–5 Plan Details

Prompt Sequence	Folder (For reference only - not seeded)	Collection Element Name	Prompt
210	General	Entered by User	Entered by User
220	General	Date Opened	Date Opened
230	General	Date Closed	Date Closed
240	General	Days to Close	Days to Close
250	In-Process	Job	Job
260	In-Process	From Op Seq Number	From Op Seq
270	In-Process	Operation Code	From Operation Code
280	In-Process	From Intraoperation Step	From Intraop
290	In-Process	Department	Dept
300	In-Process	To Op Seq Number	To Op Seq
310	In-Process	To Operation Code	To Operation Code
320	In-Process	To Intraoperation Step	To Intraop Step
330	In-Process	To Department	To Dept
340	In-Process	Production Line	Production Line
350	In-Process	Line Operation	Line Operation
360	In-Process	Component Item	Component Item
370	In-Process	Component Revision	Component Revision
380	In-Process	Component UOM	Component UOM
390	In-Process	Component Lot Number	Component Lot Number
400	In-Process	Component Serial Number	Component Serial Number
410	In-Process	Component Subinventory	Component Sub
420	In-Process	Component Locator	Component Locator
430	Projects	Project Number	Project Number
440	Projects	Task Number	Task Number
450	Projects	Contract Number	Contract Number

Table B–5   Plan Details

Prompt Sequence	Folder (For reference only - not seeded)	Collection Element Name	Prompt
460	Projects	Contract Line Number	Contract Line Number
470	Projects	Deliverable Number	Deliverable Number
480	Inventory	Subinventory	Sub
490	Inventory	Locator	Locator
500	Inventory	Lot Number	Lot Number
510	Inventory	Serial Number	Serial Number
520	Inventory	License Plate Number	License Plate Number
530	Inventory	Lot Status	Lot Status
540	Inventory	Serial Status	Serial Status
550	Supplier	Supplier	Supplier
560	Supplier	PO Number	PO Number
570	Supplier	PO Line Number	PO Line Number
580	Supplier	PO Release Number	Rel
590	Supplier	PO Shipment	Shipment
600	Supplier	Supplier Lot Number	Supplier Lot Number
610	Supplier	PO Receipt Number	PO Receipt Number
620	Customer	Customer	Customer
630	Customer	Sales Order Number	Sales Order Number
640	Customer	SO Line Number	SO Line Number
650	Customer	RMA Number	RMA Number
660	Customer	RMA Line Number	RMA Line Number
670	Maintenance	Asset Group	Asset Group
680	Maintenance	Asset Activity	Asset Activity
690	Maintenance	Asset Number	Asset Number
700	Maintenance	Maintenance Work Order	Work Order
710	Service	Service Request	Service Request

Table B–5   Plan Details

Prompt Sequence	Folder (For reference only - not seeded)	Collection Element Name	Prompt
720	Service	Incident Type	Incident Type
730	Service	Item Instance	Item Instance
740	Service	Item Instance Lot	Item Instance Lot
750	Service	Item Instance Serial	Item Instance Serial Number
760	Process	Process Name	Process Name
770	Process	Process Step	Process Step
780	Workflow	Workflow Notification	Workflow Notification
790	Workflow	Send Notification To	Send Notification To

Table B–6   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template Nonconformance Master Plan	Template Nonconformance Master Record History Plan	History	All elements are copied to child plan to maintain audit trail
2	Template Nonconformance Master Plan	Template Nonconformance Detail Plan	Delayed	Nonconformance number, Item, and Component item information is copied to child plan
3	Template Nonconformance Master Plan	Template WIP Component Segregation	Delayed	Some elements are copied to child plan
4	Template Nonconformance Master Plan	Template Inventory Segregation	Delayed	Some elements are copied to child plan

Table B–7   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Send Email	Equals YES	Send an electronic email notification	-
2	Date Opened	Is Empty	Assign a Value to a collection element	Make Date opened as current date
3	Nonconformance	Equals CLOSED	Assign a value to a collection element	Update Date Closed with current date
4	Days to Close	Date Closed is entered	Assign a Value to a collection element	Calculate the Days to Close
5	Owner	Is entered	Assign a Value to a collection element	The e-mail address of the owner is assigned to Email Address
6	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template Nonconformance Detail Plan

This collection plan captures the detail of a nonconformance. It is assumed that each nonconformance reported in the master collection plan can have multiple reasons or causes, requiring each master record to be fragmented into detail records. It is possible that the person logging the nonconformance is not in a position to perform additional analysis or identify the cause of defect. This collection plan enables you to review, analyze, and perform other actions associated with the lifecycle of a nonconformance, such as assign action and maintain history. At the end of a nonconformance lifecycle, the decision regarding a disposition action is made, and that execution is relayed to the Disposition Management set of collection plans.

The Nonconformance Detail plan contains the following collection elements:

Table B–8   Plan Details

Prompt Sequence	Folder (For reference only - not seeded)	Collection Element Name	Prompt
10	General	Nonconformance Number	Nonconformance Number
20	General	Nonconform Line Num	Nonconform Line Num
30	General	Nonconformance Source	Nonconformance Source
40	General	Nonconform Item Type	Nonconform Item Type
50	General	Defect Code	Defect Code
60	General	Cause Code	Cause Code
70	General	Nonconform Line Status	Nonconform Line Status
80	General	Entered by User	Entered by User
90	Material	Item	Item
100	Material	Revision	Rev
110	Material	Quantity Nonconforming	Quantity Nonconforming
120	Material	Nonconforming UOM	Nonconforming UOM
130	Material	Lot Number	Lot Number
140	Material	Serial Number	Serial Number
150	Material	Component Item	Component Item
160	Material	Component Revision	Component Revision

Table B–8   Plan Details

Prompt Sequence	Folder (For reference only - not seeded)	Collection Element Name	Prompt
170	Material	Component UOM	Component UOM
180	Material	Component Lot Number	Component Lot Number
190	Material	Component Serial Number	Component Serial Number
200	Notes	Note Type	Note Type
210	Notes	Notes	Notes
220	Action Executed	Action Executed	Action Executed
230	Action Executed	Action Executed By	Action Executed By
240	Action Assignment	Action Type	Action Type
250	Action Assignment	Action Description	Action Description
260	Action Assignment	Action Assigned To	Action Assigned To
270	Action Assignment	Email Address	Email Address
280	Action Assignment	Distribution List	Distribution List
290	Action Assignment	Send Email	Send Email
300	Action Assignment	Workflow Notification	Workflow Notification
310	Action Assignment	Send Notification To	Send Notification To

Table B–9   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template Nonconformance Detail Plan	Template Nonconformance Detail History Plan	History	All elements are copied to child plan to maintain audit trail
2	Template Nonconformance Detail Plan	Template Disposition Header Plan	Delayed	The nonconformance specific elements are copied to the child plan

Table B–10   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Action Assigned to	Is entered	Assign a value to a collection element	The e-mail address of the assignee is assigned to Email Address
2	Send email	Equals YES	Send an electronic email notification	-
3	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template WIP Component Segregation

This collection plan enables you to move or return nonconforming components found in Oracle Work In Process to a Material Review Board/Quarantine Subinventory.

The Collection Plan contains the following collection elements:

Table B–11   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Nonconformance Number	Nonconformance Number
20	Nonconformance Source	Nonconformance Source
30	Nonconformance Type	Nonconformance Type
40	Nonconformance Code	Nonconformance Code
50	Nonconform Item Type	Nonconform Item Type
60	Default Values	Default Values?
70	Item	Item
80	Job	Job
90	From Op Seq Number	From Op Seq
100	Quantity Nonconforming	Quantity Nonconforming
110	Nonconforming UOM	Nonconforming UOM
120	Component Item	Component Item
130	Component Revision	Rev
140	Component Lot Number	Comp Lot Number
150	Component Serial Number	Comp Serial Number
160	Subinventory	Subinventory
170	Locator	Locator
180	Transaction Date	Transaction Date
190	Reason Code	Reason Code
200	Disposition Status	Segregation Status
210	Disposition Message	Segregation Message
220	Concurrent Request ID	Concurrent Request ID

Table B–11   Plan Details

Prompt Sequence	Collection Element Name	Prompt
230	Launch Action	Launch Action
240	Action Fired	Action Fired
250	Owner	Owner
260	Email Address	Email Address
270	Distribution List	Distribution List
280	Workflow Notification	Workflow Notification
290	Send Notification To	Send Notification To

Table B–12   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template WIP Component Segregation	Template WIP Component Segregation History Plan	History	All elements are copied to child plan to maintain audit trail

Table B–13   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Default Values	Equals YES	Assign a value to a collection element	Multiple collection element values are assigned, based on the nonconformance number from the Nonconformance Master plan
2	Launch Action	Equals YES	Execute a SQL Script	WIP component return transaction triggered
3	Disposition Status	Equals FAILED, SUCCESS, WARNING	Send an electronic mail notification	E-mail sent on status of the segregation

Table B–13   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
4	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template Inventory Segregation

Using Move Orders, this plan enables you to move nonconforming material, found in Inventory, to a Material Review Board or Quarantine Subinventory.

This Collection Plan contains the following collection elements:

Table B–14   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Nonconformance Number	Nonconformance Number
20	Nonconformance Source	Nonconformance Source
30	Nonconformance Type	Nonconformance Type
40	Nonconformance Code	Nonconformance Code
50	Nonconform Item Type	Nonconform Item Type
60	Default Values	Default Values?
70	Item	Item
80	Revision	Rev
90	Quantity Nonconforming	Quantity Nonconforming
100	Nonconforming UOM	Nonconforming UOM
110	Subinventory	Subinventory
120	Locator	Locator
130	Lot Number	Lot Number
140	Serial Number	Serial Number
150	To Subinventory	To Subinventory
160	To Locator	To Locator
170	Date Required	Date Required
180	Project Number	Project Number
190	Task Number	Task Number
200	Disposition Status	Segregation Status
210	Disposition Message	Segregation Message
220	Move Order Number	Move Order Number
230	Concurrent Request ID	Concurrent Request ID

Table B–14   Plan Details

Prompt Sequence	Collection Element Name	Prompt
240	Launch Action	Launch Action
250	Action Fired	Action Fired
260	Owner	Owner
270	Email Address	Email Address
280	Distribution List	Distribution List
290	Workflow Notification	Workflow Notification
300	Send Notification To	Send Notification To

Table B–15   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template Inventory Segregation	Template Inventory Segregation History Plan	History	All elements are copied to child plan to maintain audit trail

Table B–16   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Default Values	Equals YES	Assign a value to a collection element	Multiple collection element values are assigned, based on the nonconformance number from the Nonconformance Master plan
2	Launch Action	Equals YES	Execute a SQL Script	Move order is created
3	Disposition Status	Equals FAILED, SUCCESS, WARNING	Send an electronic mail notification	E-mail sent on status of the segregation

Table B–16   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
4	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template Disposition Header Plan

This Disposition Header collection plan contains the following collection elements:

Table B–17   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Disposition Source	Disposition Source
20	Source Reference ID	Source Reference ID
30	Source Ref Line ID	Source Reference Line ID
40	Disposition Number	Disposition Number
50	Item	Item
60	Disposition Quantity	Disposition Quantity
70	Disposition UOM	Disposition UOM
80	Disposition	Disposition
90	Disposition Status	Disposition Status
100	Disposition Desc	Disposition Description
110	Disposition Owner	Disposition Owner
120	Owner Email	Owner Email
130	Default Values	Default Values
140	Source Owner	Source Owner
150	Source Owner Email	Source Owner Email
160	Entered by User	Entered by User
170	Send Email	Send Email
180	Date Opened	Date Opened
190	Date Closed	Date Closed
200	Days to Close	Days to Close
210	Workflow Notification	Workflow Notification
220	Send Notification To	Send Notification To

Table B–18   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template Disposition Header Plan	Template Disposition Detail Plan	Delayed	Some elements copied to child plan
2	Template Disposition Header Plan	Template Disposition Header History Plan	History	All elements are copied to child plan to maintain audit trail

Table B–19   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Default Values	Equals YES	Assign a value to a collection element	Multiple collection element values are assigned, based on the nonconformance number from the Nonconformance Master plan
2	Disposition Owner	Is entered	Assign a value to a collection element	E-mail address is assigned
3	Send Email	Equals YES	Send an electronic mail notification	E-mail sent on disposition details
4	Date Opened	Is empty	Assign a value to a collection element	Current date is assigned to Date Opened
5	Disposition Status	Equals CLOSED	Assign a value to a collection element	Date Closed value is assigned
6	Date Closed	Is entered	Assign a value to a collection element	Days to Close is calculated

Table B–19   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
7	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template Disposition Detail Plan

The Disposition Detail collection plan contains the following collection elements:

Table B–20   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Disposition Source	Disposition Source
20	Source Reference ID	Source Reference ID
30	Source Ref Line ID	Source Reference Line ID
40	Disposition Number	Disposition Number
50	Disposition Line Num	Disposition Line Number
60	Default Values	Default Values
70	Item	Item
80	Revision	Rev
90	Lot Number	Lot Number
100	Serial Number	Serial Number
110	Job	Job
120	Component Item	Component Item
130	Component Revision	Component Revision
140	Component Lot Number	Component Lot Number
150	Component Serial Number	Component Serial Number
160	Subinventory	Subinventory
170	Locator	Locator
180	License Plate Number	License Plate Number
190	PO Number	PO Number
200	PO Line Number	PO Line Number
210	PO Release Number	Rel
220	PO Receipt Number	PO Receipt Number
230	PO Shipment	Shipment
240	Disposition Quantity	Disposition Quantity

Table B–20   Plan Details

Prompt Sequence	Collection Element Name	Prompt
250	Disposition UOM	Disposition UOM
260	Disposition	Disposition
270	Disposition Action	Disposition Action
280	Disposition Status	Disposition Status
290	Disposition Line Desc	Disposition Line Desc
300	Implementation By	Action Assigned to
310	Email Address	Email Address
320	Distribution List	Distribution List
330	Disposition Owner	Disposition Owner
340	Owner Email	Owner Email
350	Source Owner	Source Owner
360	Source Owner Email	Source Owner Email
370	Send Email	Send Email
380	Disposition Module	Disposition Module
390	Workflow Notification	Workflow Notification
400	Send Notification To	Send Notification To

Table B–21   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template Disposition Detail Plan	Template In-Process related Disposition Action and Result	Delayed with criteria Disposition Module = WIP	Some elements are copied to child plan
2	Template Disposition Detail Plan	Template Inventory related Disposition Action and Result	Delayed with criteria Disposition Module = INV	Some elements are copied to child plan

Table B–21   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
3	Template Disposition Detail Plan	Template Disposition Detail History Plan	History	All elements are copied to child plan to maintain audit trail

Table B–22   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Default Values	Equals YES	Assign a value to a collection element	Multiple collection element values are assigned, based on the nonconformance number from the Nonconformance Master plan
2	Implementation by	Is entered	Assign a value to a collection element	E-mail address is assigned
3	Send Email	Equals YES	Send an electronic mail notification	E-mail sent on disposition details
4	Disposition Action	Equals a given set of values	Assign a value to a collection element	Disposition Module is assigned
5	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template In-Process related Disposition Action and Result

This plan executes the Disposition Actions, WIP Scrap, Create Rework Job, WIP Component Issue and WIP Component Return, Create Rework Operation, and Move to Rework Operation. The plan uses some of the context elements captured during the creation of a nonconformance and enables you to update it. During the time the nonconformance is logged and the disposition action is executed, the reference context might be stale; you can update it for this reason.

The plan contains the following collection elements:

Table B–23   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Disposition Source	Disposition Source
20	Source Reference ID	Source Reference ID
30	Source Ref Line ID	Source Reference Line ID
40	Disposition Number	Disposition Number
50	Disposition Line Num	Disposition Line Number
60	Disposition	Disposition
70	Disposition Action	Disposition Action
80	Default Values	Default Values
90	Item	Item
100	Job	Job
110	Maintenance Work Order	Maintenance Work Order
120	New Rework Job	New Rework Job
130	Rework Job	Rework Job Name
140	Job Class	Job Class
150	Start Date	Start Date
160	End Date	End Date
170	Bill Reference	Bill Reference Item
180	BOM Revision	BOM Revision
190	Routing Reference	Routing Reference
200	Routing Revision	Routing Revision

Table B–23   Plan Details

Prompt Sequence	Collection Element Name	Prompt
210	Rework Op Seq Number	Rework Op Seq Number
220	Rework Operation Code	Rework Operation Code
230	Rework Department	Rework Department
240	Resource Seq Num	Resource Seq Num
250	Resource Code	Resource Code
260	Assigned Units	Assigned Units
270	Usage Rate	Usage Rate
280	From Op Seq Number	From Op Seq
290	Operation Code	Op Code
300	From Intraoperation Step	From Intraop
310	Department	Dept
320	To Op Seq Number	To Op Seq
330	To Operation Code	To Operation Code
340	To Intraoperation Step	To Intraop Step
350	To Department	To Dept
360	Production Line	Production Line
370	Line Operation	Line Operation
380	Disposition Quantity	Disposition Quantity
390	Disposition UOM	Disposition UOM
400	Job MRP Net Quantity	Job MRP Net Quantity
410	Scrap Account Alias	Scrap Account Alias
420	Project Number	Project No
430	Task Number	Task No
440	Component Item	Component Item
450	Component Revision	Component Revision
460	Component Lot Number	Component Lot Number
470	Component Serial Number	Component Serial Number

Table B–23   Plan Details

Prompt Sequence	Collection Element Name	Prompt
480	Component Subinventory	Component Subinventory
490	Component Locator	Component Locator
500	Transaction Date	Transaction Date
510	Reason Code	Reason Code
520	Disposition Status	Disposition Status
530	Disposition Message	Disposition Message
540	Concurrent Request ID	Concurrent Request ID
550	Launch Action	Launch Action
560	Action Fired	Action Fired
570	Implementation By	Action Assigned to
580	Email Address	Email Address
590	Distribution List	Distribution List
600	Disposition Owner	Disposition Owner
610	Owner Email	Owner Email
620	Source Owner	Source Owner
630	Source Owner Email	Source Owner Email
640	Workflow Notification	Workflow Notification
650	Send Notification To	Send Notification To

Table B–24   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template In Process Disposition Action and Result	Template In Process Disposition History Plan	History	All elements are copied to child plan to maintain audit trail

Table B–25   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Default Values	Equals YES	Assign a value to a collection element	Multiple collection element values are assigned, based on the nonconformance number from the Nonconformance Master plan
2	Disposition Action	Equals a set of values	Execute a SQL script	The disposition actions are executed in the background
3	Disposition Status	Equals a set of values	Send an electronic mail notification	E-mail sent on disposition status
4	Workflow Notification	Equals YES	Launch a Workflow	Workflow notifications sent

Template Inventory related Disposition Action and Result

This plan executes the Disposition Actions, Inventory Scrap (Account Alias), and Move Orders. The plan uses some of the context elements captured during the creation of a nonconformance and enables you to update it. During the time the nonconformance is logged and the disposition action is executed, the reference context might be stale; you can update it for this reason.

The plan contains the following collection elements:

Table B–26   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Disposition Source	Disposition Source
20	Source Reference ID	Source Reference ID
30	Source Ref Line ID	Source Reference Line ID
40	Disposition Number	Disposition Number
50	Disposition Line Num	Disposition Line Number
60	Disposition	Disposition
70	Disposition Action	Disposition Action
80	Default Values	Default Values
90	Item	Item
100	Revision	Rev
110	Subinventory	Subinventory
120	Locator	Locator
130	Lot Number	Lot Number
140	Serial Number	Serial Number
150	License Plate Number	License Plate Number
160	To Subinventory	To Subinventory
170	To Locator	To Locator
180	Move Order Number	Move Order Number
190	Date Required	Date Required
200	Disposition Quantity	Disposition Quantity
210	Disposition UOM	Disposition UOM

Table B–26   Plan Details

Prompt Sequence	Collection Element Name	Prompt
220	Scrap Account Alias	Scrap Account Alias
230	Project Number	Project No
240	Task Number	Task No
250	Transaction Date	Transaction Date
260	Reason Code	Reason Code
270	Disposition Status	Disposition Status
280	Disposition Message	Disposition Message
290	Concurrent Request ID	Concurrent Request ID
300	Launch Action	Launch Action
310	Action Fired	Action Fired
320	Implementation By	Action Assigned to
330	Email Address	Email Address
340	Distribution List	Distribution List
350	Disposition Owner	Disposition Owner
360	Owner Email	Owner Email
370	Source Owner	Source Owner
380	Source Owner Email	Source Owner Email
390	Workflow Notification	Workflow Notification
400	Send Notification To	Send Notification To

Table B–27   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template Inventory related Disposition Action and Result	Template Inventory Disposition History Plan	History	All elements are copied to child plan to maintain audit trail

Table B–28   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Default Values	Equals YES	Assign a value to a collection element	Multiple collection element values are assigned, based on the nonconformance number from the Nonconformance Master plan
2	Disposition Action	Equals a set of values	Execute a SQL script	The disposition actions are executed in the background
3	Disposition Status	Equals a set of values	Send an electronic mail notification	E-mail sent on disposition status
4	Workflow Notification	Equals YES	Launch a Workflow	Workflow notification is sent

C

Sample Code

This appendix provides code for example purposes. The examples in this chapter are not part of Oracle's code; they have not been tested or certified by Oracle. Customers and implementors must use their discretion before implementing. This chapter includes the following topics:

❏ Sample PL/SQL Code for finding Approver using Oracle Workflow on page C-2

❏ Sample Code for Custom SQL*Plus Report on page C-4

Sample PL/SQL Code for finding Approver using Oracle Workflow

> **Note:** The code below is for example purposes only. It is not part of Oracle's code, and has not been tested or certified by Oracle. Customers and implementors must use their discretion before implementing.

```
PACKAGE XXCQA_APPROVAL_WF_PKG AUTHID CURRENT_USER as

    PROCEDURE find_approver (itemtype IN VARCHAR2
    itemkey IN VARCHAR2,
    actid IN NUMBER,
    funcmode IN VARCHAR2);

END xxcqa_approval_wf_pkg;

PACKAGE BODY XXCQA_APPROVAL_WF_PKG as

PROCEDURE find_approver (
        itemtype IN VARCHAR2,
    itemkey IN VARCHAR2,
    actid IN NUMBER,
    funcmode IN VARCHAR2,
    result OUT NOCOPY VARCHAR2) IS

        1_recipient VARCHAR2(1000);

BEGIN
        1_recipient := wf_engine.getitemattrtext(
            itemtype => itemkey,
                item key => itemkey,
                aname    => 'RECIPIENT');

        -- IF the notification is currently read by USER1, i.e. current approver
        -- then make USER2 the next approver to receive the notification
        IF (1_recipient = 'USER1') THEN
            wf_engine.setitemattritext (
                item type => itemtype,
                item key  => itemkey,
                aname     => 'RECIPIENT',
                avalue    => 'USER2';
        result := 'COMPLETE:Y'; -- for Find Approver step to go back to
        Notification step
```

```
    ELSE
        result := 'COMPLETE:N'; -- No further approval required
    END IF;

EXCEPTION
    WHEN OTHERS THEN
        wf_core.context ('qa_results_wf_pkg', 'find_approver',
            itemtype, itemkey, to_char (actid), funcmode);
    raise;

END find_approver;

END xxcqa_approval_wf_pkg;
```

Sample Code for Custom SQL*Plus Report

This report provides a master detail data for a nonconformance. It lists the
nonconformance header information, and the corresponding nonconformance lines
and dispositions for each nonconformance line. In addition, if the disposition was a
rework job, the operations and resources for the rework job are displayed on the
report.

> **Note:** The code below is for example purposes only. It is not part
> of Oracle's code, and has not been tested or certified by Oracle.
> Customers and implementors must use their discretion before
> implementing.

```
SET HEADING ON
SET VERIFY OFF
SET PAGESIZE 10000
SET SERVEROUTPUT ON

REM
REM The first query is a join between nonconformance master and detail.
REM It flattens the master and the detail into one result set.
REM And then the result set is fomratted into two blocks, a
REM "header block" with common information, and a detail
REM block with detail descriptions.
REM

REM
REM The following block of COLUMN statements declares what
REM data elements should appear in the header block.
REM (NOPRINT suppresses their value in the detail)
REM

COLUMN today NOPRINT NEW_VALUE today
COLUMN ncm_no NOPRINT NEW_VALUE ncm_no
COLUMN part_no NOPRINT NEW_VALUE part_no
COLUMN part_desc NOPRINT NEW_VALUE part_desc
COLUMN revision NOPRINT NEW_VALUE revision
COLUMN work_order NOPRINT NEW_VALUE work_order
COULMN ncm_qty NOPRINT NEW VALUE ncm_qty
COLUMN ncm_source NOPRINT NEW_VALUE ncm_source
COLUMN ncm_severity NOPRINT NEW_VALUE ncm_severity
COLUMN ncm_status NOPRINT NEW_VALUE ncm_status
COLUMN from_op_seq NOPRINT NEW_VALUE from_op_seq
```

```
REM
REM The following block fo COLUMN statements declares the
REM look and feel format of the detail elements.
REM

COLUMN ncm_line_num TRUNCATE HEADING "NCM Line"
COLUMN identidy FORMAT A20 WORD_WRAPPED HEADING "identidy"
COLUMN note_type FORMAT A9 TRUNCATE HEADING "Note Type"
COLUMN notes FORMAT A43 WORD_WRAPPED HEADING "Notes"
COLUMN requirement FORMAT A20 TRUNCATE HEADING "Requirement"
COLUMN deviation FORMAT A10 TRUNCATE HEADING "Deviation"
COLUMN disp_num FORMAT A7 TRUNCATE HEADING "Disp#"
COLUMN disp_line_num TRUNCATE HEADING "Disp Line"
COLUMN disposition FORMAT A12 WORD_WRAPPED HEADING "Disposition"
COLUMN disposition_source FORMAT A10 TRUNCATE HEADING "Source"
COLUMN disp_desc FORMAT A40 WORD_WRAPPED HEADING "Description"
COLUMN disp_status FORMAT A10 TRUNCATE HEADING "Status"
COLUMN disp_owner FORMAT A10 TRUNCATE HEADING "Owner"
COLUMN date_opened FORMAT A10 TRUNCATE HEADING "Date Opened"
COLUMN date_closed FORMAT A10 TRUNCATE HEADING "Date Closed"
COLUMN disp_action FORMAT A20 TRUNCATE HEADING "Action"
COLUMN disp_line_desc FORMAT A50 WORD_WRAPPED HEADING "Description"

REM
REM The following is the look and feel of the header block.
REM

TTITLE CENTER 'MATERIAL REVIEW REPORT' skip 1 -
CENTER today skip 3 -
LEFT 'NCM Number  :' ncm_no skip 1 -
LEFT 'Work Order  :' work_order skip 1 -
LEFT 'Part Number :' part_no skip 1 -
LEFT 'Revision    :' revision skip 1 -
LEFT 'Description :' part_desc skip 1 -
LEFT 'Qty         :' ncm_qty skip 1 -
LEFT 'Source      :' ncm_source skip 1 -
LEFT 'Severity    :' ncm_severity skip 1 -
LEFT 'Status      :' ncm_status skip 1 -
LEFT 'OP Seq#     :' from_op_seq skip 3 -

SELECT sysdate today,
       ncm_mst.nonconformance_number ncm_no,
       ncm_mst.item part_no,
       substr(msi.description, 1, 75) part_desc,
```

```
              ncm_mst.revision,
              ncm_mst.nonconformance_source ncm_source,
              ncm_mst.nonconformance_severity ncm_severity,
              ncm_mst.nonconformance_status ncm_status,
              ncm_mst.job work_order,
              ncm_mst.from_op_seq_number from_op_seq,
              ncm_dtl.nonconform_line_num ncm_line_num,
              ncm_dtl.identidy identidy,
              ncm_dtl.note_type note_type,
              ncm_dtl.notes notes,
              ncm_dtl.short_description requirement,
              ncm_dtl.deviation deviation
       FROM   q_&&3._ncm_master_v ncm_mst,
              q_&3._ncm_dtl_v ncm_dtl,
              mtl_system_items_kfv msi
       WHERE  ncm_mst.nonconformance_number = '&&1' AND
              ncm_mst.nonconformance_number = ncm_dtl.nonconformance_number (+) AND
              ncm_mst.item_id = msi.inventory_item_id (+) AND
              ncm_mst.organization_id = msi.organization_id (+)
       ORDER BY ncm_line_num;


       TTITLE OFF


       REM
       REM We now query the dispostions for each ncm line
       REM
       REM BREAK ON ncm_line_num
       REM SELECT disp_hdr.source_ref_line_id ncm_line_num,
       REM        disp_hdr.disposition_number disp_num,
       REM        disp_hdr.disposition_source,
       REM        disp_hdr.disposition,
       REM        disp_hdr.disposition_desc disp_desc,
       REM        disp_hdr.disposition_status disp_status,
       REM        disp_hdr.date_opened,
       REM        disp_hdr.date_closed,
       REM FROM   q_&3._ncm_disp_hdr_v disp_hdr
       REM WHERE
       REM        disp_hdr.source_reference_id = '&1'
       REM ORDER BY ncm_line_num, disp_num;


       REM
       REM We now query the disposition details for each disposition
       REM


       BREAK ON ncm_line_num on disp_num
```

```
SELECT
       disp_dtl.source_ref_line_id ncm_line_num,
       disp_dtl.disposition_number disp_num,
       disp_dtl.disposition disposition,
       disp_dtl.disposition_action disp_action,
       disp_dtl.disposition_line_desc disp_line_desc
       disp_dtl.disposition_status disp_status
FROM
       q_&3._ncm_disp_dtl_v disp_dtl
WHERE
       disp_dtl.source_reference_id = '&1'
ORDER BY ncm_line_num, disp_num;


REM
REM The following is a refinement of the above to also print
REM out resource usage for each operation of each Rework Job
REM disposition.
REM

COLUMN disp_num NOPRINT NEW_VALUE disp_num
COLUMN disp_line_num NOPRINT NEW_VALUE disp_line_num
COLUMN disp_action NOPRINT NEW_VALUE disp_action
COLUMN disp_line_desc NOPRINT NEW_VALUE disp_line_desc
COLUMN new_rework_job NOPRINT NEW_VALUE new_rework_job
COLUMN op_seq FORMAT 9999 HEADING "Op"
COLUMN dept_code HEADING "Department"
COLUMN job_desc FORMAT A50 WORD_WRAPPED HEADING Description
COLUMN assigned_units FORMAT 999 HEADING "AssignedUnits"
COLUMN scheduled_units FORMAT A9 HEADING "ScheduledUnits"
COLUMN scheduled_flag FORMAT A3 HEADING Sch
COLUMN resources FORMAT A10 HEADING Resources

TTITLE skip 5 CENTER 'MATERIAL REVIEW REPORT' skip 1 -
CENTER 'Operation Resource Usage' skip 1 -
CENTER today skip 3 -
LEFT 'NCM Number   :' ncm_no skip 1 -
LEFT 'Part Number  :' part_no skip 1 -
LEFT 'Revision     :' revision skip 1 -
LEFT 'Description  :' part_desc skip 2 -
LEFT 'Disp         :' disp_num skip 1 -
LEFT 'Disp Line    :' disp_line_num skip 1 -
LEFT 'Disp Action  :' disp_action skip 1 -
LEFT 'Description  :' disp_line_desc skip 1 -
```

```
            LEFT 'Rework Job   :' new_rework_job skip 3

            BREAK ON disp_num

            SELECT --+ leading (q_&3.ncm_disp_wip_v.qr)
                 dis_dtl.disposition_number disp_num,
                 disp_dtl.disposition_line_num disp_line_num,
                 disp_dtl.disposition_action disp_action,
                 disp_dtl.disposition_line_desc disp_line_desc,
                 disp_wip.new_rework_job,
                 wor.operation_seq_num op_seq,
                 wor.department_code dept_code,
                 wor.resource_code resources,
                 wor.assigned_units,
                 wor.scheduled_units,
                 decode(wor.scheduled_flag, 1, 'Y', 'N') scheduled_flag,
                 wor.description job_desc
            FROM
                 q_&3._ncm_disp_dtl_v disp_dtl,
                 q_&3._ncm_disp_wip_v disp_wip,
                 wip_entities we,
                 wip_operation_resources_v wor
            WHERE
                 disp_wip.disposition_number = disp_dtl.disposition_number AND
                 (disp_dtl.disposition_line_num IS NULL OR
                 disp_wip.disposition_line_num = disp_dtl.disposition_line_num) AND
                 disp_wip.new_rework_job = we.wip_entity_name AND
                 we.wip_entity_id = wor.wip_entity_id AND
                 we.organization_id = disp_wip.organization_id AND
                 disp_dtl.source_reference_id = '&1'
            ORDER BY disp_num, disp_line_num;


            COLUMN ncm_status FORMAT A10 HEADING Status
            COLUMN owner FORMAT A20 HEADING Owner
            COLUMN detail_desc FORMAT A50 WORD_WRAPPED HEADING Description
            COLUMN last_update_date HEADING 'Date'

            TTITLE skip 5 CENTER 'MATERIAL REVIEW REPORT' skip 1 -
            CENTER 'Disposition History' skip 3 -
            LEFT 'NCM Number  :' ncm_no skip 1 -
            LEFT 'Part Number :' part_no skip 1 -
            LEFT 'Revision    :' revision skip 1 -
            LEFT 'Description :' part_desc skip 3
```

```
COLUMN title FORMAT A80 HEADING 'Details'
SELECT ' ' as title FROM DUAL WHERE &&2 = 1;

DECLARE
      1_prev q_&3._ncm_disp_dtl_hist_v%ROWTYPE;
      first BOOLEAN := true;

BEGIN

    IF &2 = 1 THEN

        FOR r IN (SELECT *
            FROM q_&3._ncm_disp_dtl_hist_v
            WHERE source_reference_id = &1
            ORDER BY source_ref_line_id, disposition_number, creation_date)
        LOOP
         IF first THEN
            dbms_output.put_line('Disposition ' ll r.disposition_number ll '
            created:
'llto_char(r.creation_date, 'DD-MON-YYYY HH24:MI:SS') ll ' by '
                ll r.created_by);
            dbms_output.put_line('.');
            1_prev :=r;
            first := false;
          ELSE
            IF (1_prev.source_ref_line_id <> r.source_ref_line_id) OR
               (1_prev.disposition_number <> r.disposition_number)THEN
            dbms_output.put_line('Disposition ' ll r.disposition_number ll '
            created:
'llto_char(r.creation_date, 'DD-MON-YYYY HH24:MI:SS') ll ' by '
                11 r.created_by);
            dbms_output.put_line('.');
            ELSE

            dbms_output.put_line(Record updated: 'llto_char(r.creation_date,
            'DD-MON_YYYY HH24:MI:SS') ll ' by '
                11 r.created_by);
            IF r.disposition_status <> 1_prev.disposition_status THEN
            dbms_output.put_line('Disposition status updated from: 'll
                1_prev.disposition_status ll ' to: 'll
                r.disposition_status);
            END IF;
            IF r.disposition <> 1_prev.disposition THEN
            dbms_output.put_line('Description updated from: 'll
                1_prev.disposition ll' to: 'll
```

```
                r.disposition);
          END IF;
          --
          --
          dbms_output.put_line('.');
          END IF;
          1_prev :=r;
      END IF;
    END LOOP;
  END IF;
END;
                /
```

D

Stand-alone Collection Plan for Nonconformances Entered via Mobile Applications and Warehouse Management

This appendix lists the setup details for a stand-alone, mobile nonconformance collection plan. This chapter includes the following topics:

❑ Setting Up on page D-2

Setting Up

A stand-alone collection plan needs to be created and associated with every mobile transaction where nonconformances can be logged, for example, License Plate Number Inspection.

Step 1 - Create a Collection Plan

Create a collection plan with the following elements:

Table D–1   Mobile Nonconformance Collection Plan

Sequence	Collection Element Name	Prompt
10	Nonconformance Source	Nonconformance Source
20	Short Description	Short Description
30	Nonconform Severity	Nonconform Severity
40	Nonconform Priority	Nonconform Priority
50	Nonconformance Type	Nonconformance Type
60	Nonconformance Code	Nonconformance Code
70	Nonconform Item Type	Nonconform Item Type
80	Item	Item
90	Revision	Rev
100	Quantity	Quantity
110	UOM	UOM
120	Quantity Nonconforming	Quantity Nonconforming
130	Nonconforming UOM	Nonconforming UOM
140	Nonconformance Status	Nonconformance Status
150	Owner	Owner
160	Email Address	Email Address
170	Send Email	Send Email
180	Entered by User	Entered by User
190	Date Opened	Date Opened

Step 2 - Associate Mobile Transaction

Associate and enable the current plan with the target mobile transaction, for example, License Plate Number Inspection. Additional collection elements can be added to your plan, depending on the transaction.

Step 3 - Add Action to Nonconformance Source

This action passes the nonconformance information to the Nonconformance Master collection plan, using the QA Results API.

- Collection Element: Nonconformance Source

- Action Rules

Sequence	Element	Condition
10	Nonconformance Source	is entered

- Action this rule invokes: Execute a SQL Script

Table D–2 Tokens Used in the Action Execution

Token Name	Collection Element
&NCSOURCE	Nonconformance Source
&ITEMTYPE	Nonconform Item Type
&ITEM	Item
&ITEMREV	Revision
&QTY	Quantity
&ITEMUOM	UOM
&NCQTY	Quantity Nonconforming
&NCUOM	Nonconforming UOM
&SDESC	Short Description
&NCSEV	Nonconform Severity
&NCPRI	Nonconform Priority
&NCTYPE	Nonconformance Type
&NCCODE	Nonconformance Code
&CRE	Created By

Table D–2   Tokens Used in the Action Execution

Token Name	Collection Element
&ORG	Organization

SQL Text

```
declare
retval number;
creid number;

CURSOR USERID IS
SELECT USER_ID
FROM FND_USER
WHERE USER_NAME = '&CRE';

begin

INSERT INTO Q_NONCONFORMANCE_MASTER_IV
(
PROCESS_STATUS,
ORGANIZATION_CODE,
PLAN_NAME,
INSERT_TYPE,
NONCONFORMANCE_SOURCE,
NONCONFORM_ITEM_TYPE,
ITEM,
REVISION,
QUANTITY,
UOM,
QUANTITY_NONCONFORMING,
NONCONFORMING_UOM,
SHORT_DESCRIPTION,
NONCONFORM_SEVERITY,
NONCONFORM_PRIORITY,
NONCONFORMANCE_TYPE,
NONCONFORMANCE_CODE
)
values
(
1,
&ORG,
'NONCONFORMANCE MASTER',
1,
&NCSOURCE,
```

```
&ITEMTYPE,
&ITEM,
&ITEMREV,
&QTY,
&ITEMUOM,
&SDESC,
&NCSEV,
&NCPRI,
&NCTYPE,
&NCCODE
);

OPEN USERID
FETCH USERID INTO creid;

retval:=fnd_request.submit_request
(
application=>'QA',
program=>'QLTTRAMB',
argument1=>'20',
argument2=>'1',
argument3=>creid,
argument4=>'NO');
commit;
end;
/
```

E

Collection Elements for Automated Disposition Action Processing

This appendix lists a Disposition collection plan's required collection elements for automated disposition processing. This chapter includes the following topics:

❏ Collection Plans on page E-2

❏ Work In Process Disposition Collection Plan(s) on page E-2

❏ Inventory Disposition Collection Plan(s) on page E-4

Collection Plans

The following tables list the mandatory and optional collection elements to execute an automated disposition within Oracle Quality. This section includes the following topics:

Work In Process Disposition Collection Plan(s)

Plan Names

Template In-process related Disposition Action and Result

Template In-process related Disposition Action and Result (Dispositions only)

Table E–1   Disposition Action: Create Rework Job (WIP_REWORK_JOB)

Mandatory Collection Elements	Optional Collection Elements
JOB CLASS	JOB START DATE
-	JOB END DATE
-	NEW REWORK JOB
-	BILL REFERENCE
-	BOM REVISION
-	ROUTING REFERENCE
-	ROUTING REVISION
-	DISPOSITION QUANTITY
-	JOB MRP NET QUANTITY

Table E–2   Disposition Action: Component Return to Inventory (WIP_COMP_RETURN) and Component Issue to Job (WIP_COMP_ISSUE)

Mandatory Collection Elements	Optional Collection Elements
JOB	-
COMPONENT ITEM	-
OPERATION_SEQ_NUMBER	-

Table E–2   Disposition Action: Component Return to Inventory (WIP_COMP_RETURN) and Component Issue to Job (WIP_COMP_ISSUE)

Mandatory Collection Elements	Optional Collection Elements
COMPONENT SUBINVENTORY	-
DISPOSITION QUANTITY	-
UOM	-
REASON CODE	-
REVISION (if applicable)	-
COMPONENT LOT (if applicable)	-
COMPONENT SERIAL NUMBER (if applicable)	-
COMPONENT LOCATOR (if applicable)	-
TRANSACTION DATE (if applicable)	-

Table E–3   Disposition Action: Move to Rework Operation (WIP_MOVE_REWORK)

Mandatory Collection Elements	Optional Collection Elements
JOB	FROM & TO OPERATION CODE
ITEM	-
DISPOSITION QUANTITY	-
UOM	-
FROM & TO OPERATION SEQUENCE NUMBER	-
FROM & TO INTRAOPERATION STEPS	-
TRANSACTION DATE	-
REASON_CODE	-

Table E–4   Disposition Action: Assembly Scrap (WIP_MOVE_SCRAP)

Mandatory Collection Elements	Optional Collection Elements
JOB	-
ITEM	-

Table E–4   Disposition Action: Assembly Scrap (WIP_MOVE_SCRAP)

Mandatory Collection Elements	Optional Collection Elements
DISPOSITION QUANTITY	-
UOM	-
FROM & TO OPERATION SEQUENCE NUMBER	-
FROM & TO INTRAOPERATION	-
TRANSACTION DATE	-
SCRAP ACCOUNT ALIAS	-

Table E–5   Disposition Action: Add Rework Operation (WIP_REWORK_OP)

Mandatory Collection Elements	Optional Collection Elements
JOB	-
REWORK OP SEQ NUMBER	-
REWORK OPERATION CODE	-
REWORK DEPARTMENT	-
RESOURCE SEQ NUM	-
RESOURCE CODE	-
ASSIGNED UNITS	-
USAGE RATE	-
START DATE	-
END DATE	-

Inventory Disposition Collection Plan(s)

Plan Names

Template Inventory related Disposition Action and Result

Template Inventory related Disposition Action and Result (Dispositions Only)

Table E–6   Disposition Action: Creation of Inventory Move Order (INV_MOVE_ORDER)

Mandatory Collection Elements	Optional Collection Elements
ITEM	-
DISPOSITION QUANTITY	-
DISPOSITION UOM	-
DATE REQUIRED	-
FROM SUBINVENTORY	-
TO SUBINVENTORY	-
REVISION (if applicable)	-
FROM LOCATOR (if applicable)	-
TO LOCATOR (if applicable)	-
PROJECT NUMBER (if applicable)	-
TASK NUMBER (if applicable)	-
LOT NUMBER (if applicable)	-
SERIAL NUMBER (if applicable)	-

Table E–7   Disposition Action: Inventory Scrap (INV_SCRAP_AAI)

Mandatory Collection Elements	Optional Collection Elements
ITEM	TRANSACTION DATE
SUBINVENTORY	-
SCRAP ACCOUNT ALIAS	-
DISPOSITION QUANTITY	-
DISPOSITION UOM	-
REVISION (if applicable)	-
LOT (if applicable)	-
SERIAL NUMBER (if applicable)	-

F

Seeded Workflow Notifications

This appendix lists all seeded workflow notifications provides as part of the Nonconformance and Disposition solution. This chapter includes the following topics:

❏ Seeded Workflow Notifications on page F-2

Seeded Workflow Notifications

The following is a list of seeded workflow notifications provided as part of the Nonconformance and Disposition solution:

- Disposition Detail Notification

- Disposition Header Notification

- In Process Disposition Status Notification

- Inventory Disposition Status Notification

- Inventory Segregation Status Notification

- Maintenance Nonconformance Notification

- Nonconformance Detail Notification

- Nonconformance Master Notification

- Receiving Disposition Status Notification

- WIP Component Segregation Status Notification

See Also

Workflow Configuration on page 8-2

Part II

Corrective Action Solution

Part II of the implementation guide provides all of the needed information for the implementation of Oracle Quality's Corrective Action Solution.

9

Overview of the Corrective Action Solution

The Corrective Action Solution enables you to track and implement Corrective Action Requests via a pre-configured set of seeded collection plans. This chapter contains the following topics:

❏ Solution Templates on page 9-2

Solution Templates

Solution Templates aid in the ease of implementation with a pre-configured set of seeded collection plans. This set of seeded collection plans can be copied to real plans, modified if necessary, and implemented, enabling the implementation cycle time to be greatly reduced.

This section includes the following topics:

Objectives

The Corrective Action Solution is comprised of several objectives, including the following:

- Enter, track, review, and implement a Corrective Action Request (CAR)

- Progress the CAR through its status lifecycle

- Execute the CAR's multiple review and implementation steps

- Automate the submission of an Engineering Change Order (ECO)

Contents

To achieve the Solution Template objectives, the templates contain the following:

- Seeded collection elements and associated lookup values for some of the seeded elements

- Seeded Template collection plans and corresponding values and actions

- Seeded parent-child collection plan structures with relationships, criteria, and data entry mode for the seeded template plans

- Copy Collection process

- Engineering Change Order (ECO) submission processing code

- Seeded workflow for sending pre-configured workflow notifications

Features

The following table summarizes the key features provided with the Corrective Action Solution. Implementation details, on some of these features, are provided in later chapters:

Table 9–1   Solution Template Features

Key Feature	Supported Activities
Submission of Corrective Action Requests	Ability to submit Corrective Action Requests (CAR) and track them using an unique identifier
	Different modes of submission: Direct Data Entry, Transaction Integration, Collection Plan Integration
	Identification of the source, severity, quality standards violated, etc.
	Information to the owner or assignee through e-mail alerts and workflow notifications
	Audit Trail on changes made to a CAR
CAR Lifecycle	Multiple phases/actions can be tracked for a CAR via Review and Analysis, Containment, Corrective Action, Preventive Action, Implementation, and Implementation Effectiveness
	Each phase/action can have an assignee
	The assignee can update the CAR with the relevant information
	The owner reviews the CAR and closes it if there are no pending actions
Supply Chain Applicability	Can be used to track customer initiated CAR, internal CAR, and supplier CAR
	CAR can be submitted, based upon the context of the initiation (Purchase Order, Sales Order, Work Order, etc.)
Cost Tracking	Review and Implementation costs can be captured for a CAR
	Costs can be rolled up to the CAR to indicate Total Review and Total Implementation costs
ECO Header Submission	ECO Submission resulting from a CAR can be initiated from a Quality Collection Plan
Security and Privileges	Existing user group functionality
	Assignment of Privileges to create, update, insert, and/or delete from a collection plan

Table 9–1   Solution Template Features

Key Feature	Supported Activities
Menu Options	Menu options to invoke the corrective action requests in Enter, Update, and View modes

10

Implementation Roadmap

This chapter provides the guidance needed to implement the Corrective Action Solution. After the implementation of the Corrective Action Solution, the Corrective Action collection plans will contain all information related to problems requiring corrective action reported within your enterprise, and subsequent review and implementation of those corrective actions. This chapter contains the following topics:

❏ Implementation Considerations on page 10-2

❏ Corrective Action Process on page 10-6

❏ Implementation Checklist on page 10-10

Implementation Considerations

You can identify factors that need to be considered, prior to setting up and implementing the Corrective Action Solution. Depending on your specific business processes, these factors may or may not be applicable.

This section includes the following topics:

Prerequisites

Following are the prerequisites needed to implement the solution:

- Oracle Discrete Manufacturing Family Pack I

- Knowledge of Oracle Quality's functionality and capabilities, including Parent-Child Collection Plans (See: Parent-Child Collection Plans, *Oracle Quality User's Guide*)

Corrective Action Request Types

It is important to consider the types of Corrective Action Requests that are commonly handled by your organization, and the types that will be implemented in the Corrective Action Solution.

Based on the origin of the CAR within the Supply Chain, there can be different types of requests. The responsibility for the action might lie with different parties. We will assume Supplier S supplies material and services to Enterprise E who in turn sells products to Customer C.

You can enter request types using the solution template collection plans. The solution includes seeded values for request types. The Corrective Action Requests (CARs) can be categorized into the following types:

Internal CAR

This CAR category is primarily associated with resolving problems within Enterprise E. Examples of these problems are poor quality due to non-adherence to quality procedures, and recurring physical damage to assembly during handling and storage.

CAR requiring Supplier Action

This CAR category originates from the supplier. Examples of these are related rejections of supplier lots received from Supplier S in the receiving integration.

Customer Initiated CAR

This CAR category is initiated by a customer to address problems from their suppliers, within the Supply Chain. For example, Customer C logs a CAR with Enterprise E to identify the reason recent shipments from Enterprise E have labels that do not match their contents.

Internal CAR that eventually requires Supplier Action

This CAR category is associated with problems that were initially thought to be internal issues, but further analysis identified them as a supplier problem.

Customer initiated CAR that requires Supplier Action

This CAR category is an extension of the previous category. The customer initiates a CAR, but further evaluation and analysis identifies the cause as supplier related.

Corrective Action Request Sources

Corrective Action Requests can originate either from customer complaints, nonconformance trends, quality audits, or other sources. Following are some of the factors that need to be considered before you implement the Corrective Action Solution:

- If Nonconformance, Quality Audits, and Customer complaints are common CAR sources, then it is recommended to use the set of provided template parent-child collection plans.

- If you currently use Oracle Service - Service Requests to handle your customer complaints, and they are the only source for your Corrective Action Requests, then it is recommended to take advantage of the Oracle Quality and Oracle Service integration, using the stand-alone template collection plan.

Captured Data

Oracle Quality provides a data collection capability within Collection Plans; they can capture all data involved in your business process, including Corrective Action and related Quality test results.

Additional data not covered by the template collection plans can be captured in user-defined collection elements, and added to collection plans.

Alternatively, these elements can be grouped into additional plans and linked to the nonconformance/disposition system.

Valid Values

The solution has included commonly used values for validation of some collection elements. These values can be modified to your valid values, according to your business rules. Some of these elements are listed below:

- Request Source
- Request Type
- Standard Violation
- Section Violated
- Problem Solving Method
- Request Priority
- Request Severity
- Request Status
- Action Type
- Implementation Type

Corrective Action Identification

Corrective Action is identified by sequence numbers. Your business may use a prefix/suffix for identification purposes; the corrective action number can be customized.

Corrective Action Data Privileges

Different participants of the process can be given different privileges (new record, update record, read only) to access different sets of data. You can enforce collection plan security.

Corrective Action Process

This section includes the following topics:

- Corrective Action Process Flow on page 10-6

- Mapping the Business Flow to the Oracle Quality Step on page 10-8

Corrective Action Process Flow

The following process flow illustrates a generic Corrective Action Request lifecycle. The actual process used in your organization may be different than what is depicted in the following diagram:

CORRECTIVE ACTION PROCESS FLOW
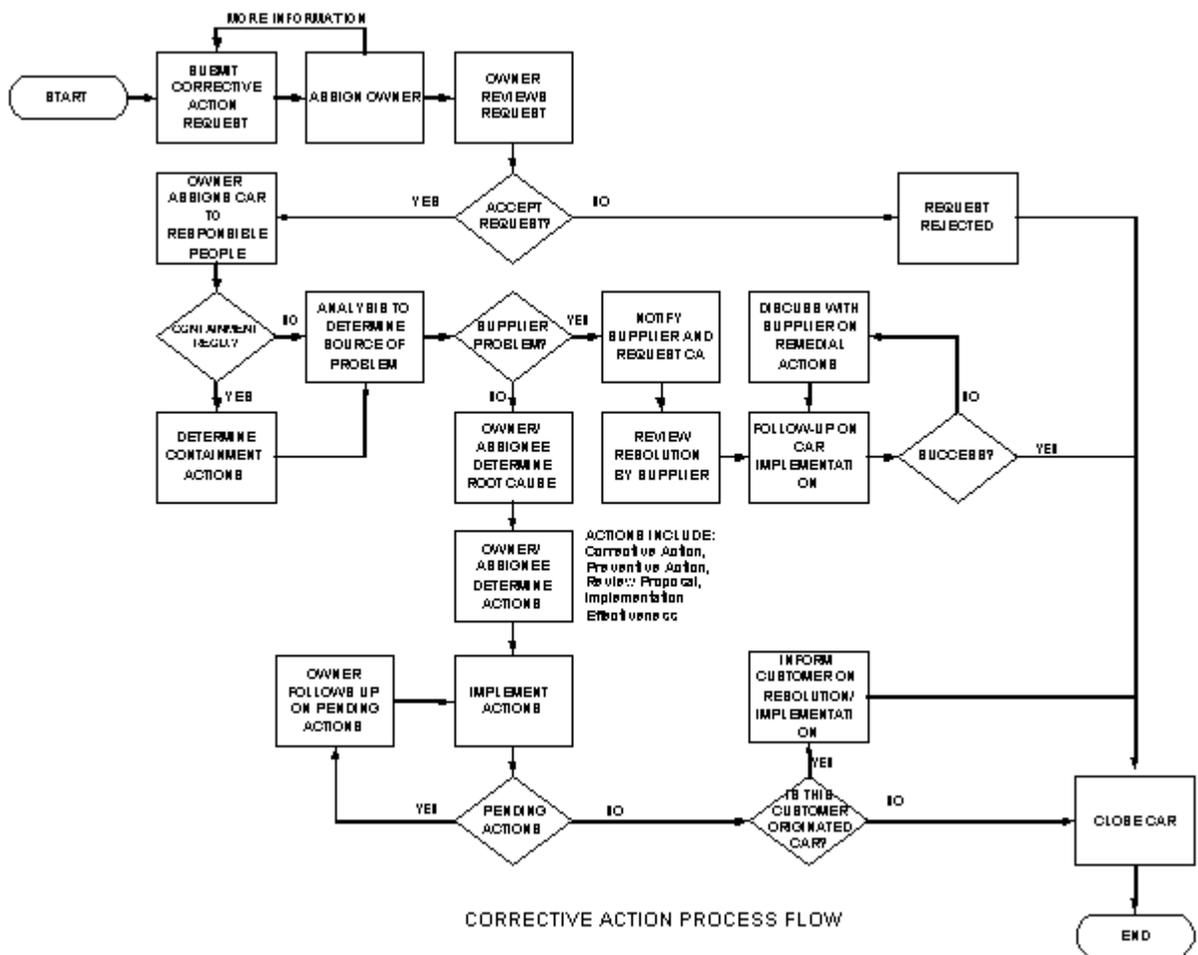
Some of the procedural steps taken during the lifecycle of a Corrective Action Request are described below:

Step 1 - Submitting a Corrective Action Request

Corrective Action Requests are a result of problems identified in the quality management system. They can originate internally, or as a result of a customer complaint, falling into one of the different request types. See: Corrective Action Request Types on page 10-2.

Step 2 - Request Review by Owner

The owner reviews the Corrective Action Request and either approves or rejects it. The criteria for approval or rejection depends on your organization's specific business processes.

Step 3 - Owner decides Course of Action

For Internal and Customer Initiated CARs, based on the problem description, the owner consults with other individuals, and decides on how to process the CAR. For a Supplier CAR, this step might not be required. The supplier is automatically responsible for providing a plan of corrective action.

Step 4 - Owner/Assignee Implements CAR Actions

After sufficient review and analysis has been performed by the individuals involved in the CAR lifecycle, decisions are made on the CAR actions (Containment, Corrective, Preventive Actions).

Step 5 - Owner Reviews CAR Lifecycle

After the corrective actions have been successfully implemented and the effectiveness of the implementation has been verified, the CAR's owner closes the CAR with appropriate comments.

Mapping the Business Flow to the Oracle Quality Step

The following table maps the business flow steps to the equivalent steps to be executed within Oracle Quality:

Table 10–1   Business Flow to Oracle Quality Step Mapping

Business Flow Step	Oracle Quality Step
Submit Corrective Action Request	Invoke the Corrective Action Request collection plan within Oracle Quality and submit a CAR
Assign Owner	Update Owner collection element in Corrective Action Request
Review Corrective Action Request	Update elements (Priority, Severity, etc.) in the Corrective Action Request plan.
Assign CAR actions	Owner determines the course of action and creates Review actions, assigning the same within the CAR Review plan
	Owner determines the course of action and creates Implementation actions, assigning the same within the CAR Implementation plan

Table 10–1   Business Flow to Oracle Quality Step Mapping

Business Flow Step	Oracle Quality Step
Analysis/Review by Assignee	The assignees update the CAR Review plan with the Notes on the review actions that were performed, and the status of the review actions
Determine Root Cause	Owner/Assignee determines the root cause and updates the CAR plans with the information
Implement Corrective Actions	Assignees update the Corrective Action Implementation plans with the implementation actions, notes, resolution dates, and statuses of the actions
Verify implementation and its effectiveness	Owner reviews the CAR and the child review and implementation plans to verify successful implementation. Additionally, the owner may set up a follow-up date to review implementation effectiveness
Inform necessary parties	If required, owner informs the customer, supplier, or any other internal or third party, on CAR status via e-mail alerts
Close CAR	Owner closes the CAR in the Corrective Action Request Plan

Implementation Checklist

The implementation may span multiple functional areas; the following list provides information on the process flow and steps to implement within these functional areas:

❑ Prerequisite

Oracle Discrete Manufacturing Family Pack I should be installed.

❑ Setup

In this implementation phase, it is important to identify the usage configuration of the Corrective Action System to be implemented. Subsequent to this decision, other steps can be executed.

Refer to Overview of Setting Up on page 11-2 for the required information.

❑ Corrective Action Implementation

Chapter 12 describes the steps for implementing a Corrective Action Request resulting from a Nonconformance, Quality Audit, etc. Additionally, a brief explanation is provided on how the Oracle Service and Oracle Quality integration can be leveraged to implement a Corrective Action System. Refer to the following topics:

- Corrective Action from an Audit on page 12-2

- Corrective Action Generated from a Nonconformance on page 12-10

- Corrective Action for a Supplier on page 12-26

- Corrective Action from a Customer Complaint on page 12-38

❑ Reporting and Tailoring your solution

Reporting Overview on page 13-2 describes how to generate reports on Corrective Action Requests.

Chapter 14 describes how the Corrective Action Solution can be tailored to meet your specific organization needs. Some of the tailoring activities described include Workflow configuration and Modification of E-mail Notifications to suit your organization needs. Refer to the following topics:

- Workflow Configuration on page 14-2

- Tailoring E-mail Notifications on page 14-7

- Tips and Techniques on page 14-9

11

Setting Up

This chapter outlines the steps necessary to set up Oracle Quality to use the
Corrective Action Solution Templates. This chapter contains the following topics:

❏ Overview of Setting Up on page 11-2

❏ Setup Steps on page 11-2

❏ Considerations Prior to Implementation on page 11-16

Overview of Setting Up

The Corrective Action Request solution is delivered as a set of template collection plans and related seeded data. To utilize the solution, real collection plans need to be set up for use. These plans should be modified according to your specific organization needs. The following is a setup checklist:

Setup Checklist

❏ Choose a configuration

❏ Copy from template collection plans

❏ Update of Sequence prefix and suffix

❏ Update of values for seeded collection elements

❏ Update of menu entry to point to the correct plan

❏ Modify collection plan details and plan element prompts

❏ Set up collection plan security

❏ Add user defined elements to the plans

❏ Organize the plan elements into folders

❏ Set up Profile Options: Autoquery set to No

This section includes the following topics:

Setup Steps

Step 1 - Choose a configuration (mandatory)

In order to accommodate a customer's choice to implement a Corrective Action System purely with Oracle Quality or using the Oracle Quality/Oracle Service integration, the following configurations are proposed:

Table 11–1   Supported Configurations of the Solution

Configuration	Usage
CAR Implementation in Oracle Quality	This configuration consists of all collection plans and related seeded data used for Corrective Action Requests
CAR using Oracle Quality and Oracle Service	This configuration consists of a single seeded, stand-alone collection plan that can be integrated with the Oracle Service Requests system, and be used for Corrective Action Requests

Step 2 - Copy from template Collection Plans (mandatory)

Based on the configuration you had chosen in the previous step, copy the entire structure of template collection plans into a set of real collection plans. The plans can be copied using the Copy Collection Plans process. It is required to specify the target or destination organization in which this set of plans will be used, as well as the user-defined names for these plans.

> **Note:** Template collection plans cannot store quality results and cannot be updated.

1. Navigate to the Copy Collection Plans page.

Figure 11–1   Copy Collection Plans Page
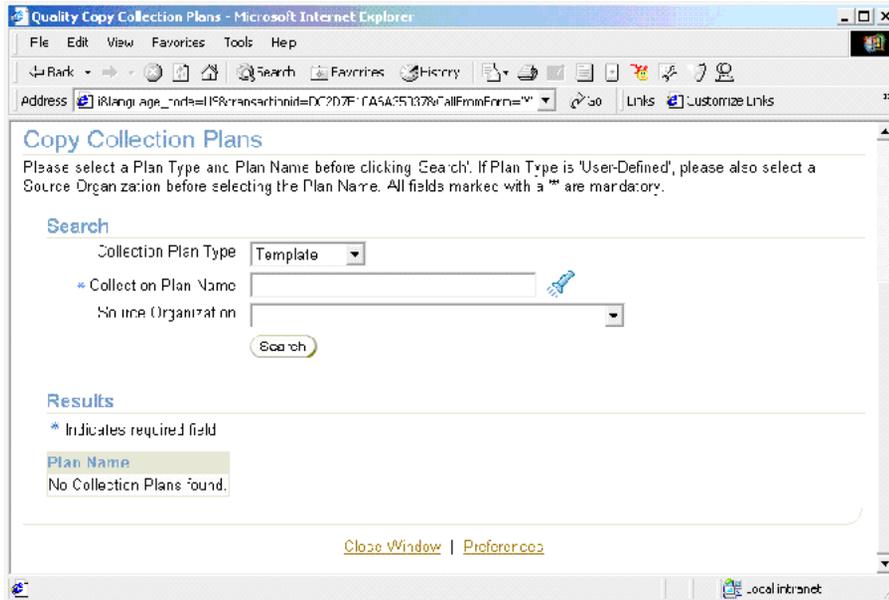
2. Select Template from the Collection Plan Type list of values. The Organization will not be populated and is not necessary because the template plans are not assigned to an organization.

3. Select a parent Collection Plan Name. Depending on the configuration (step 1) chosen for implementation, the appropriate parent plan should be chosen for the parent-child structure to be copied.

Table 11–2   Supported Configurations and Corresponding Parent Plans

Configurations	Usage	Parent Plan
CAR Implementation in Oracle Quality	This configuration consists of all collection plans and related seeded data, used for Corrective Action Requests	Template Corrective Action Request

Table 11–2   Supported Configurations and Corresponding Parent Plans

Configurations	Usage	Parent Plan
CAR using Oracle Quality and Oracle Service	This configuration consists of a single seeded, stand-alone collection plan that can be integrated with the Oracle Service Requests system and used for Corrective Action Requests	Template Quality Service CAR

4. Choose Search.

5. Review the hierarchy of plans within the Results region.

Figure 11–2   Results Region
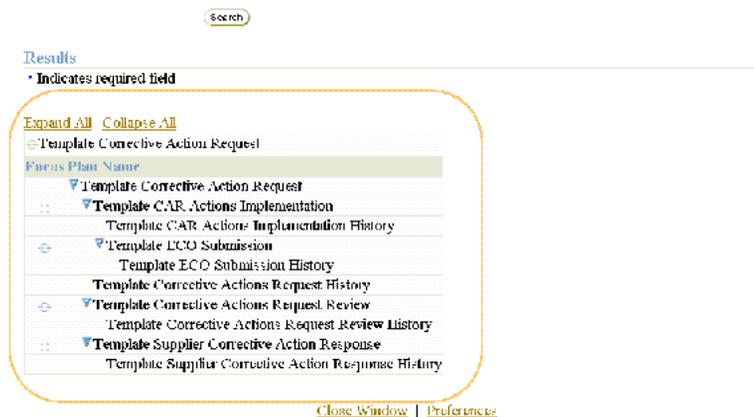
6. Choose Copy.

Figure 11–3   New Plan Names Page
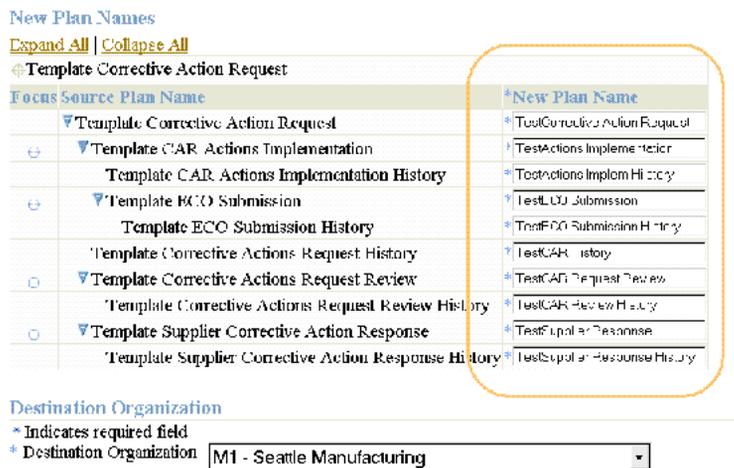
7.   Enter a New Plan Names for each of the template plan names displayed within the Source Plan Name column.

> **Note:**   Each individual plan name is required to be entered. The first 25 characters of the plan name should be unique.

8.   Select a Destination Organization. The collection plan structure will be copied to this organization.

9.   Choose Finish. Plans with names you have chosen will be created with elements, values, actions, and parent-child relationships, copied from the template plans.

Step 3 - Update of Sequence prefix and suffix (mandatory)

The Corrective Action Solution generates a sequence number for uniquely identifying the individual Corrective Action Request Number and New ECO Name. If your business practice requires a specific manner of identifying these sequentially generated numbers, you can set up the appropriate prefix and suffix information; this should be performed before using and entering data in the Corrective Action Request Collection Plans.

> **Warning:** After quality results have been entered for sequence collection elements and saved into the corrective action collection plans, the prefix/suffix cannot be changed.

1. Navigate to the Collection Elements window.

Figure 11–4   Collection Elements Window

2. Select Corrective Action Num from the Collection Element list of values.

3. Choose Sequence.

4. Enter your desired Prefix, Suffix, Separator, Increment, and Number Segment Length.

5. Save your work.

6. Repeat steps one through five for the New ECO Name collection element.

Step 4 - Update of values for seeded collection elements (optional)

Oracle Quality has seeded commonly used values for some collection elements, as part of the seeded data. Depending on applicability of these values to your organization process, these values can be modified either at the collection element level, or at the plan level.

> **Note:** Do not delete the seeded lookup values for the collection elements, Disposition Action and Disposition Status. These seeded values are internally used by the Oracle Quality. You can add new lookup values to this list of elements.

As part of the Corrective Action Solution, many new seeded collection elements have been provided. Some of these elements are listed below:

- Request Source
- Request Type
- Standard Violated
- Section Violated
- Problem Solving Method
- Request Priority
- Request Severity
- Request Status
- Action Type
- Implementation Type

To update values for seeded collection elements:

1. Navigate to the Collection Elements window.

2. Select the element, for which you want to change its value, from the Collection Element list of values.

3. Choose Values.

4. Add or modify these values to match your organization process statuses and codes.

5. Save your work.

Step 5 - Update of menu entry to point to the correct plan (mandatory)

Seeded menu options for entry, update, and view, are provided. These menu options need to be modified by the System Administrator to point to the top most parent plan that was set up in Step 2. They need to point to the correct Corrective Action Request plan that was set up when copying the collection plan structures.

You first need to find the plan identification number of the Corrective Action Request plan you have created.

1. Navigate to the Collection Plans window.

Figure 11–5   Collection Plans Window
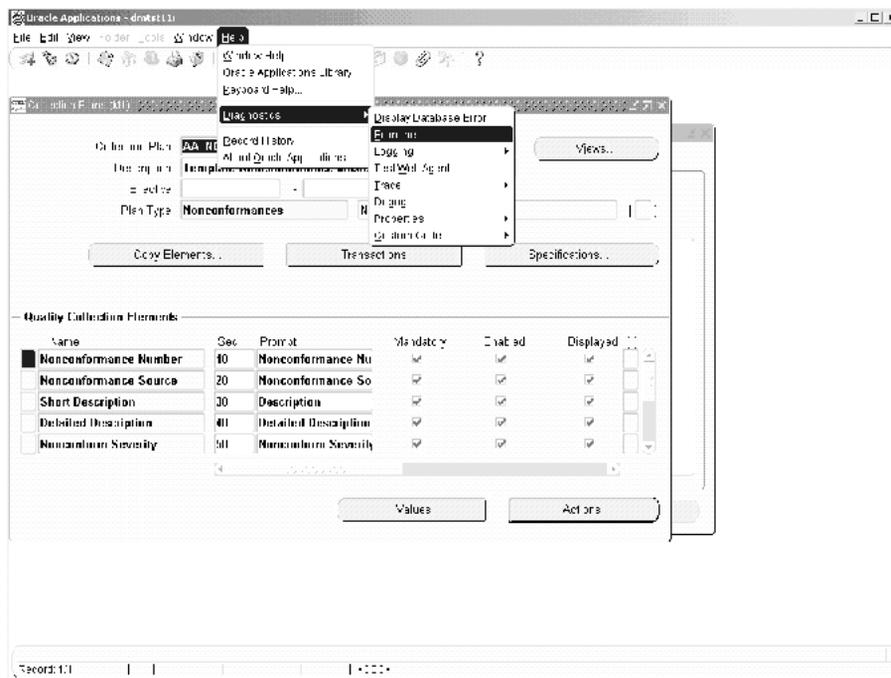
2. Select the Collection Plan from the list of values.

3. From the Help menu, select Diagnostic, then Examine, to display the Examine Field and Variable Values window.

Figure 11–6   Examine Field and Variable Values Window
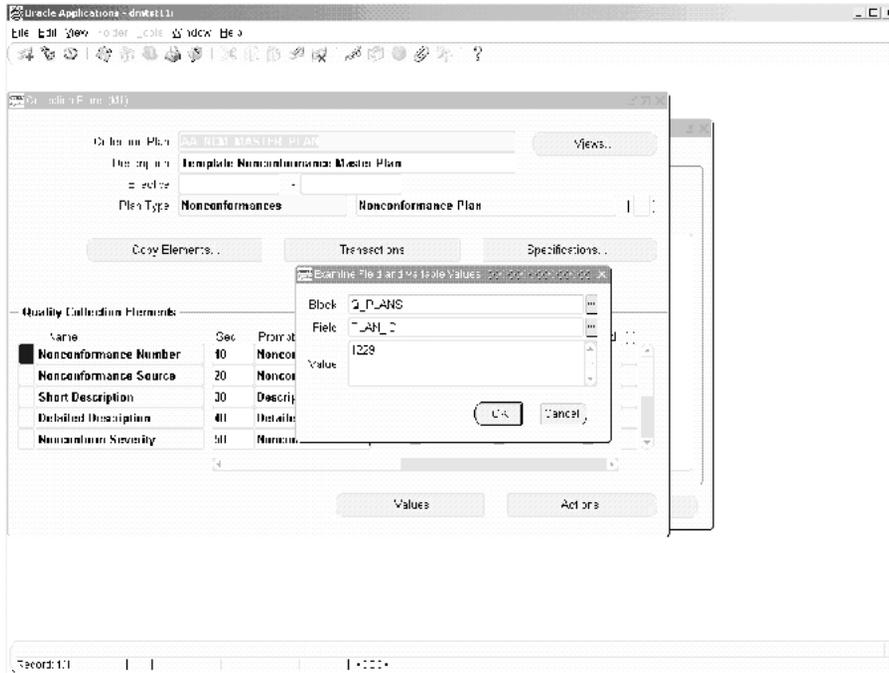
4. Select Q_PLANS from the Block list of values.

5. Select PLAN_ID from the Field list of values.

6. The plan identification number is populated within the Value field.

7. Switch to the System Administrator responsibility.

8. Navigate to the Form Functions window.

Figure 11–7   Form Functions Window
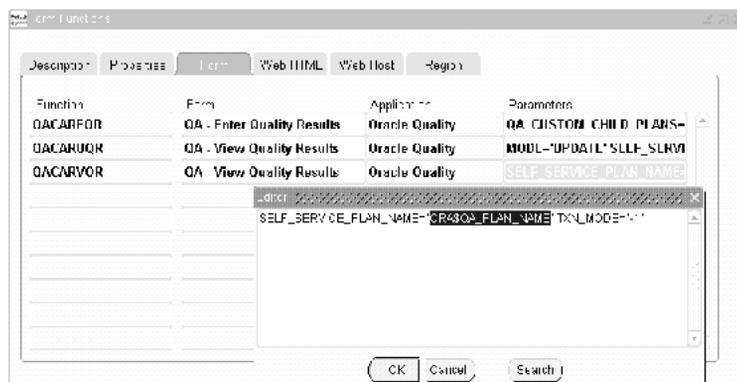
9. Within the Description tabbed region, select the Function field, then select the Find (flashlight) icon. Perform a query on QACAR% functions.

10. Select the Form tabbed region.

11. Select the Parameters field within the QACAREQR Function row. Once selected, the Editor window will display.

12. Change the ORA$QA_PLAN_ID value to the *plan identification number* of your Corrective Action Request plan, created above.

13. For the QACARUQR and QACARVQR functions, change the ORA$QA_PLAN_NAME values (within their corresponding Parameters fields) to the plan *name* of your Corrective Action Request plan, created above.

14. Make similar changes for the other functions.

15. Save your work.

> **Note:** For additional menu entries, if multiple CAR plans exist within the same organization, copy QACAR% functions to functions with different names and change the ORA$ token, accordingly. Add these functions to the QA_CAR menu.

Step 6 - Modify Collection Plan Details and Plan Element Prompts (optional)

The copied plans from Step 2 have the description of the plan copied from the templates. The collection plan description can be modified to be more meaningful to

the user. The collection element prompt in the copied Corrective Action plans can be modified for specific user requirements. Depending on the business process in place and the terminology in use, some of the collection element prompt names in the collection plans can be modified to be more meaningful to end users.

For example, if Request Type is called CAR Type, perform the following steps:

1. Navigate to the Collection Plans window.

2. Select the Collection Plan for which you want to modify the prompt name for the collection element.

3. Within the Prompt field of the collection element, change the Request Type to CAR Type.

Step 7 - Add user defined elements to the plans (optional)

Specific business needs might require additional collection elements, in order to capture information related to a Corrective Action Request. This can be accomplished by adding new collection elements and values to the collection plans copied in Step 2. If the collection elements that are provided in the CAR solution are not sufficient, then additional colle4ction elements can be created.

For example, if it is required to calculate the Total CAR cost (estimate and actual) in the Quality collection plan, create two new elements: *Total CAR Estimate Cost* and *Total CAR Actual Cost*.

1. Navigate to the Collection Elements window.

2. Create a new element, Total CAR Estimate, with the following properties:

   - Element Type = Variable

   - Data Type = Number

   - Decimal Precision = 2

3. Save your work.

4. Navigate to the Collection Plans window.

5. Select the Corrective Action Request plan from the Collection Plan list of values.

6. Add Total CAR Estimate Cost to the current collection plan.

   To keep an audit trail of updates to this element, you should also add this element to the Corrective Action Request History plan.

7. Save your work.

8. Navigate to the Update Parent Child Plan Relationships page.

9. Select Corrective Action request from the Parent Plan list of values.

10. Select Corrective Action Request History from the Child Plan list of values.

11. Choose Element Relationship.

12. Add a Copy relationship between Total CAR Estimate Cost in Parent and Child plans.

13. Save your work.

Step 8 - Link user defined plans to the system (optional)

If the additional elements are better organized in a separate collection plan, such a plan can be linked through-out the system. For example, you can perform a certain Quality test for Corrective Action Implementation, within your organization. You can create a Quality collection plan to capture this test data, and associated it with Corrective Action Implementation.

Collection plans can also be created for carrying out quality audits, or for capturing complaint information; they can have parent-child relationships trigger the entry of a corrective action request.

8.1 - To create a collection plan for a Quality test:

1. Navigate to the Collection Plans window.

2. Enter a new collection plan Name, Description, and Plan Type.

3. Add collection elements to the current collection plan.

4. Save your work.

8.2 - To define a Parent-Child Plan Relationship:

Once the following steps are completed and you implement Corrective Action, you can invoke the Quality test plan from Step 9.

1. Navigate to the Define Parent Child Plan Relationships page.

2. Enter your Corrective Action Implementation, as the Parent Plan.

3. Enter the plan created in Step 8.1, as the Child Plan.

4. Select Immediate or Delayed from the Data Entry Mode list of values.

5. Save your work.

Step 9 - Organize the plan elements into folders (optional)

The Collection Plans copied in Step 2 have collection elements to capture data from different functional areas of your enterprise (Receiving, Work in Process, Shipping, etc.). Users of the system might be interested only in the data related to their job role. For example, a customer service representative might be interested only in the data related to sales orders, and not the entire set of collection elements. In order to restrict what the user sees in the collection plans, Folder Tools can be utilized.

See Also

Folder Tools, *Oracle Applications User's Guide*

Step 10 - Set Up Profile Options (optional)

If you expect a large number of CAR records, then to improve performance, set the following profile option value to never: QA: Update Quality Results Autoquery.

Step 11 - Setup within other modules (conditionally mandatory)

Because this solution provides the features to send e-mail notifications and workflow notifications, it is required for users to be set up as employees, within their e-mail addresses, in Oracle HR and/or to be set up as Oracle Applications Users.

See Also

Oracle HRMS

Oracle Applications System Administrator Guide

Step 12 - Set Up Collection Plan Security

Depending upon the sensitivity of data in the quality system, it might be desired to restrict the access of the data to users for view, update, or creation. This might require different users to be granted different types of privileges.

For example, a Quality Manager has complete access to create, update, and view corrective action requests. A Purchasing Manager has access to view CARs, but not to enter or update them.

12.1: To set up a User Group and add users:

1. Navigate to the User Groups window:

2. Create a new User Group.

3. Assign users (members), who will have the same roles and privileges, to the current user group. All users of the system should be Oracle Applications users with a valid login authority.

4. Save your work.

12.2: Grant privileges to user groups:

1. Navigate to the Grant Privileges window. In this window, any User Group can be granted privileges to perform various functions for any plan, If the Privilege check box is selected, the user group is granted that privilege for the specified collection plan.

2. Depending upon the privileges that need to be granted to each user group, select the User Group name, the Collection Plan name, and the corresponding check boxes for Enter, View, Update, and Delete results.

3. Save your work.

12.3: Set Up Master Security Profile:

To enable collection plan security, set the value for the following Profile Option to Yes:

QA: Collection Plan Security

After all the setup steps have been completed, the users will have access only to those collection plans to which they have privileges.

Step 13 - Set Up Collection Element Security

You might want to make a critical element in a collection plan disabled to specific users. For example, the Request Status field is protected from update for user 1003612. Only non-mandatory elements can be disabled.

13.1: Create an element to control saving of a record:

1. Navigate to the Collection Element window:

2. Enter Save (or any unused name) as the Collection Element name, Attribute as the Collection Element Type, and Character as the Data Type.

3. Save your work.

13.2: Add elements and actions to your plan:

After the following setup is performed, when user 1003612 updates the Request Status, the number 2 will be assigned to the hidden element, Save. The update will be rejected.

1. Navigate to the Collection Plans window:

2. Perform a query on your Disposition plan.

3. Add the Save collection element to the current collection plan.

4. Select the Enabled check box.

5. De-select Displayed.

6. Add this Action to Save. When Save equals 2, reject the input with a message "This record is protected from update by the current user.".

7. Add this Action to Request Status. When Request Status is entered, assign a value to Save with the SQL text:

```
Select C
From (select 2 c from dual where :parameter.user_id in (1003612)
Union all
Select 1 from dual)
Where rownum = 1
```

8. Save your work.

Considerations Prior to Implementation

The following are considerations to consider before implementation:

- Reference Copy of Collection Plans

- Evaluation of Reference Copy of Collection Plan Structure and Content

Reference Copy of Collection Plans

After completing the setup process, prior to implementation, you might want to maintain a Reference Copy of the real collection plans that you intend to implement. This Reference set of plans can then be further copied to collection plans that will be implemented and used. The Copy Collection Plan process can be utilized for the same. This approach eliminates the need to copy from the template plans and modify the same for the implementation, within each organization.

The following diagram depicts the implementation process of the consideration discussed above:

Figure 11–8   Reference Copy of Collection Plans Diagram

```
┌──────────────────────┐     ┌──────────────────────┐     ┌──────────────────────┐
│ TEMPLATE COLLECTION  │     │      REFERENCE       │     │ IMPLEMENTED PLANS IN │
│        PLANS         │     │ IMPLEMENTATION COPY  │     │       MULTIPLE       │
│                      │ ──► │                      │ ──► │    ORGANIZATIONS     │
│   FOR THE CORRECTIVE │     │  COPIED FROM TEMPLATE│     │                      │
│ ACTION SOLUTION      │     │  AND MODIFIED TO SUIT│     │ COPIED FROM "REFERENCE│
│ DELIVERED IN DISCRETE│     │    BUSINESS NEEDS    │     │ IMPLEMENTATION COPY" │
│ MFG. FAMILY PACK "I" │     │                      │     │                      │
└──────────────────────┘     └──────────────────────┘     └──────────────────────┘
```

Evaluation of Reference Copy of Collection Plan Structure and Content

Evaluation of the Reference Copy should be performed prior to copying the collection plans to the individual organizations, to ensure that the business process needs are addressed. It is possible that the evaluation necessitates the elimination of one or more collection plans, in the collection plan structure,. In such a case, the collection plans can be deleted in the Reference Copy, and propagated to the individual organizations.

12

Implementation

After the completion of the setup steps, you are ready to implement the Corrective Action Solution. Corrective Action Requests can originate from a nonconformance, quality audit, customer complaint, or other sources. This chapter contains the following topics:

❏ Corrective Action from an Audit on page 12-2

❏ Corrective Action Generated from a Nonconformance on page 12-10

❏ Corrective Action for a Supplier on page 12-26

❏ Corrective Action from a Customer Complaint on page 12-38

Corrective Action from an Audit

In this following example, we will examine how a corrective action request (CAR), as a result of a Quality Audit, uncovered a serious internal quality problem. The scenario is meant to guide you in the process of analyzing your own particular business, and to highlight the Corrective Action Solution tools and functionality. Prior to entering a CAR, quality collection plans can be created to capture data when the audit is conducted. Please follow the steps described in Chapter 3, Step 8, for associating user defined collection plans to the CAR system. See: Setup Steps on page 12-2.

This section includes the following topics:

– Process Steps on page 12-2

Process Steps

Submitting a Corrective Action Request

To enter a CAR, navigate to the Enter Quality Results window (N) Quality: Corrective Action > Enter Corrective Action Request.

1. Query the CAR request.

Figure 12–1   Enter Quality Results Window

2. Select CAR REQUEST PLAN from the Collection Plan list of values. The CAR number is loaded to identify the CAR with a pre-seeded, user-defined sequential number. You can now enter the specific CAR information.

3. Select a Request Source from the list of values. This is what causes the CAR to generate. Valid values are AUDIT, CUSTOMER, NONCONFORMANCE, or OTHERS. If your organization requirements are such that more sources are required, you can add values to the collection element, Request Source, within the CAR REQUEST collection plan.

4. Select a REQUEST TYPE from the list of values. Valid values are CUSTOMER, CUSTSUPP, INTERNAL, INTLSUPP, and SUPPLIER.

5. Optionally, enter a SOURCE REFERENCE if there is a document, such as a nonconformance document.

6. Optionally, select a STANDARD VIOLATED value from the list of values if the CAR is a result of the violation of any standard. Valid seeded values are 21CFR820, ISO9000, and QS9000.

7. Optionally, select a SECTION VIOLATED value from the list of values. This value is the applicable section of the standard in violation.

8. Optionally, select a PROBLEM SOLVING METHOD from the list of values. This value refers to the particular methodology that will be used to analyze the current CAR.

9. Save your work.

CAR Item/Supplier/Contract/Customer Information

There are 21 collection elements supplied for entering the information specific to the CAR item. If the CAR is a purchased item, Supplier or Contract information is provided. If the CAR refers to a customer problem, there are collection elements to track the information related to the Customer. The following collection elements are supplied if they are required:

- Item and revision information: Item, Item Revision

- Customer and contact information: Customer, Sales Order Number, RMA Number, Contract Number, Contract Line Number, Deliverable Number

- Supplier, Supplier Site, PO Number, PO Line, PO Release, Shipment, PO Receipt, Department

CAR Priority and Description

The collection elements provided enable you to prioritize and describe the CAR. The Request Priority element is used to record if the CAR is High, Medium, or Low Priority. The Request Severity can also be used to describe how severe the CAR is for analysis and routing reasons.

There are two description collection elements:

- Short Description (200 character limit) - used to enter the initial description of the problem, and can be later used for reporting purposes

- Detailed Description (2000 character limit) - used to keep track of the analysis process. As the different responsibilities are involved in the CAR process, those individuals might want to enter their input.

You can utilize the Attachments icon to store information in many formats, for the current CAR.

Finding the CAR Root Cause

One of the primary reasons to generate a CAR in the analysis process is to find the root cause of the problem. Four collection elements are provided to track the CAR. Fields are provided to enter the root cause.

- Cause Code - seeded with three values. You can add new organization specific values, if required. For example, the Cause Code can be Material, Quality, Process, Testing, or Unknown.

- Root Cause - used to store the final problem that caused the CAR. If the root problem is fixed, the problem could have been prevented. The values should be added when the design of the organizational CAR process is complete.

- Systemic Root Cause - used to record the reason for the system breakdown.

Tracking a CAR through its Lifecycle

Fields are provided to track the CAR and to route e-mails to the necessary personnel, to either analyze, or take action, during the CAR lifecycle. You can also use a list to notify users that a CAR action is required.

- Request Status - Used to determine where the CAR is in its lifecycle. A CAR can be New, Open, Implemented, Closed, or Reopened.

The following fields can be used to track the Requestor and the Owner information:

- Requestor

- Requestor E-mail

- Owner, Owner E-mail Address

- Date Open and Date Closed - used to track the beginning and ending of a CAR for analysis. The Expected Resolution and the Actual Resolution dates are also tracked.

- Follow Up Date - used to ensure that the appropriate action is taken at the appointed time.

- Days to Close - used to track the total number of days the CAR has been open, for reporting purposes.

Use of E-mail in the CAR Process

You can send an e-mail to the assigned CAR owner from within the CAR. The owner can reassign the CAR, and notify the new owner via e-mail. The value of the Send Email collection element controls whether an e-mail notification is sent, or not.

Below is an example of an e-mail sent to notify a new CAR owner:

Figure 12–2   E-mail to notify Corrective Action Owner


```
Subject: Corrective Action Request  153  ith status OPEN has been logged/updated
   Date: Mon, 13 Jan 2003 15:57:00 -0800 (PST)
   From: Oracle Alert <mfgops@ap504cmr.us.oracle.com>
     To: larry.gray@oracle.com
     CC: ken.soh@oracle.com


REQUEST SUMMARY
Request Type:           CUSTOMER
Request Source:         OTHERS
Problem Solving Method  OTHERS
Standard Violated:      ISO9000
Section Violated:       4.10
Severity:               High
Priority:
Item:          AS54888  High
Revision:

SHORT DESCRIPTION:
Business World has experienced a problem
with locking covers and requires that we
replace the defective units.  Analysis needs to
be done to find the root cause.
```

CAR Approval

The pre-seeded collection elements for approval enable the routing of the CAR. You can view what actions were taken and what actions still need to be taken.

Cost Estimates and Actual Cost Tracking

The Estimated and Actual Costs of the CAR Review are summed and displayed in the Corrective Action Request plan. Initially, the collection element displays as zero or null.

Note: Any update to this collection element will be discarded as it computed from the child Review plan.

Saving the Corrective Action Request

The last action within the CAR request process is to save the data entered. If the Send E-mail collection element were set to YES, then the e-mail would send at this time to the CAR's Owner.

Viewing or Updating the CAR

Once the CAR has been saved, you can update or view the CAR. You can use the standard security feature to grant or deny specific privileges, such as view and update, for this CAR Request (See: Step 12 within Setup Steps on page 11-2).

Figure 12–3   Update Quality Results Window
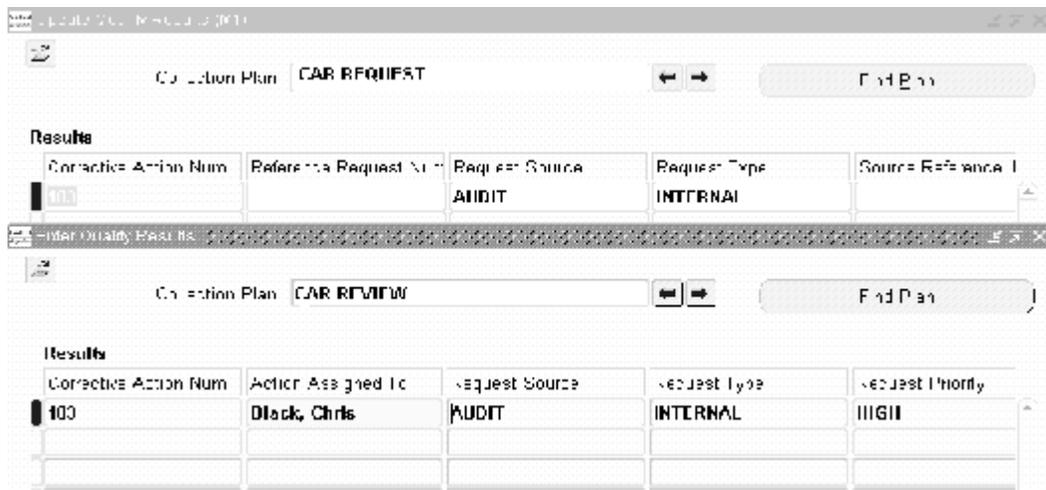
The CAR REVIEW plan was created as a Child Plan of the CAR REQUEST PLAN.

Parent-Child Collection Plan Structure

The corrective action solution is supported by parent-child collection plan relationships. The following structure enables separate CAR activities to take place within different collection plans:

Figure 12–4   Collection Plan Structure
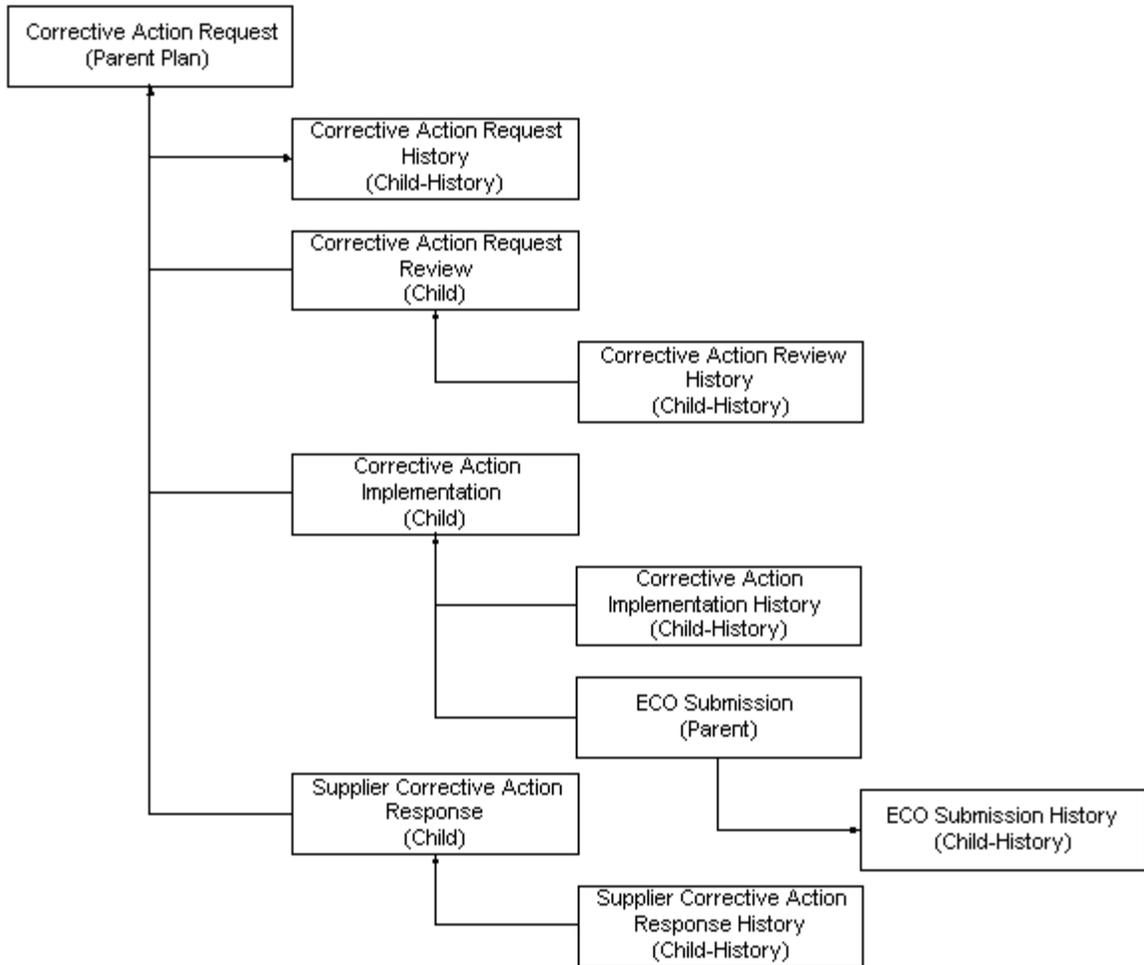
CAR Review Process - Child Plan

By reviewing the CAR, you can identify its original causes. After finding the causes, you can suggest the appropriate corrective action needed. During the review, it is common to deny a CAR or notice that similar CARs are already in process; the CAR might be a duplicate.

The review period may take a considerable period of time and can potentially have many people involved. Because the review process normally includes many cross-functional users, the CAR's owner is responsible for making sure that the CAR review process continues to progress.

CAR Implementation Process - Child Plan

Once a CAR has been reviewed and a corrective action has been determined, the implementation stage is required. Implementing a CAR is the most important outcome of the process because monitoring the success of the implementation is crucial to eliminating future quality problems.

CAR History Plans

Automatically created history collection plans keep a record of all entries during the corrective action process. For example, the CAR REQUEST HISTORY collection plan automatically keeps a record of every entry on the CAR REQUEST plan. In the example below, CAR 183 comprises three records, within the CAR REQUEST HISTORY plan. The initial entry displays at the bottom of the list. Standard Violated, Section Violated, and Item number information was entered for the second entry. The third entry indicates that ownership was transferred from Chris Black to Zoe Bear.

Figure 12–5   Corrective Action Request Update History

Maintaining a complete history is an important tool utilized when researching how a CAR has been altered. You can utilize security to limit view authority to the Quality Manager or the System Administrator. User, date, and time information is recorded within every history collection plan.

Corrective Action Generated from a Nonconformance

You can generate a corrective action if a CAR was initiated because of a nonconformance. See: Part I of this guide for information regarding nonconformance setup and use.

This section provides an example that examines how a corrective action is generated if a CAR was initiated as a result of a nonconformance. It illustrates how a CAR can be a part of an internal process that enables a Nonconformance step to initiate a Corrective Action. It also assumes that there were many Nonconformances, but only a fraction of them generate a CAR. After the Nonconformance is analyzed, it is noted that the problem must be corrected, and a CAR is generated. We added a collection element within the Nonconformance Detail plan to trigger the automatic CAR process.

This section includes the following topics:

Process Steps

Setting Up a CAR as a Child Plan

The first step is to set up a parent-child relationship between the Nonconformance plan and the CAR Request plan. This is accomplished in the Define a Parent Child Plan relationship page. Illustrated below, we are setting up a relationship between the Nonconformance Detail plan (LG_NCDETAIL) and the CAR Request plan (LG_CAR_REQUEST). This setup offers the option to create a Corrective Action.

Figure 12–6   Parent-Child Relationship between Nonconformance Detail and CAR Plan

Defining a Parent-Child Collection Plan Relationship

The relationship between elements, within a Parent-Child collection plan, needs to be defined. In this step, we are choosing which elements from the parent plan to copy to the child plan. The copy relationship enables data entry for the collection element only within the parent plan, and then immediately copies it to the child plan. In this example, we are copying some Parent Nonconformance plan elements to the Child CAR plan.

Figure 12–7   Parent-Child Element Relationship between Nonconformance Detail and CAR Plan

Parent-Child Plan Criteria

You need to establish that the child plan will activate and generate a CAR, if the Nonconformance requires a corrective action. Once this is established, if the user sets Log Nonconformance to YES, then the user is forced to enter a CAR within the child plan; the plan could not be saved without this entry.

Figure 12–8   Parent-Child Plan Criteria between Nonconformance Detail and CAR Plan

Confirming the Parent-Child Setup

You need to confirm that the parent-child relationship setup and information presented is correct. If all information is correct, the parent-child relationship will save.

Figure 12–9 Confirm Parent-Child Relationships

Entering the Nonconformance

Once you have set up the Parent Nonconformance relationship and the Child CAR plans, you can enter a Nonconformance. In the example below, the initial nonconformance is entered. We will follow some steps of the Nonconformance, and watch how the system handles the initiation of the Corrective Action after the Nonconformance has been entered.

The below Nonconformance was generated by a sales representative who spoke with Business World, the customer. The sales representative is logging a nonconformance, and requesting a Return Material Authorization (RMA). The master nonconformance plan is used to log all nonconformances from all sources.

Figure 12–10   Entering Nonconformance
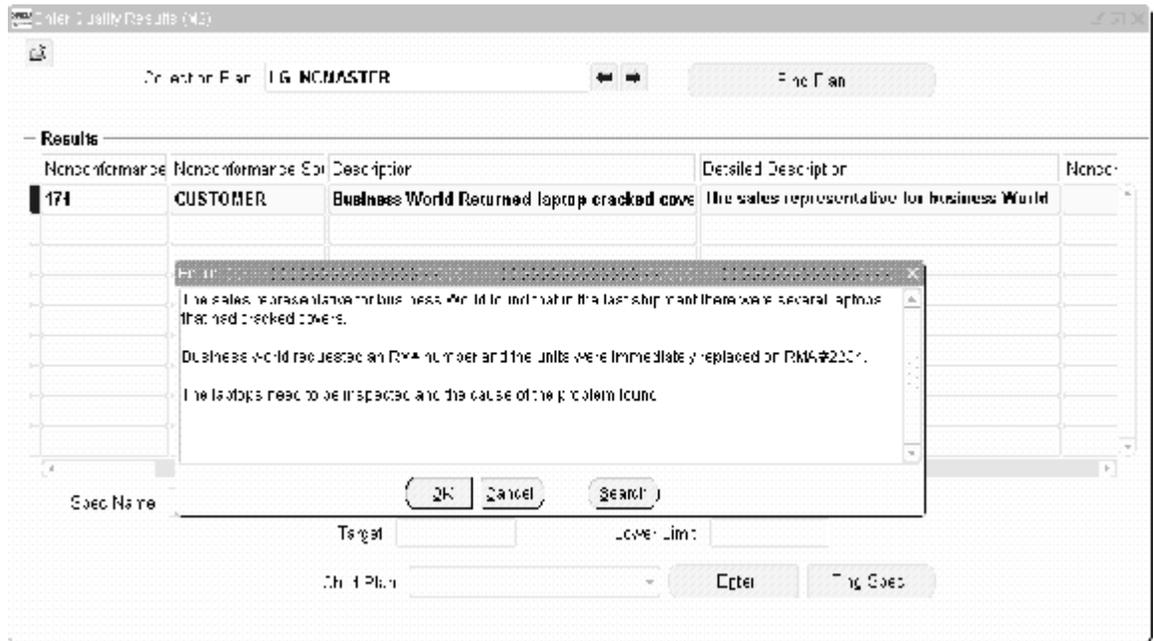
Entering the Nonconformance Master Plan

The nonconformance data is entered within the Results region of the Enter Quality Results window. The Child plan is populated in the Child Plan field. You can enter details of the nonconformance by choosing Enter.

Figure 12–11   Entering Nonconformance Master Plan
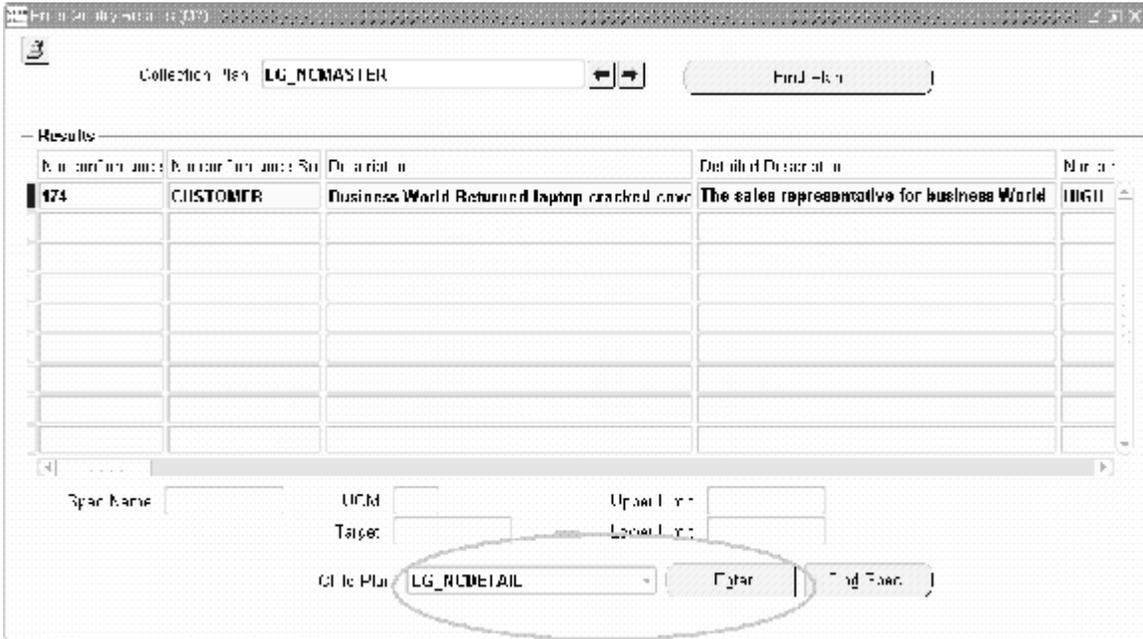
Entering the Nonconformance Detail Child Plan

The details regarding the nonconformance are entered within the Child plan. At this time, the manager can decide whether the nonconformance is serious enough to warrant a Corrective Action.

Figure 12–12   Nonconformance Detail
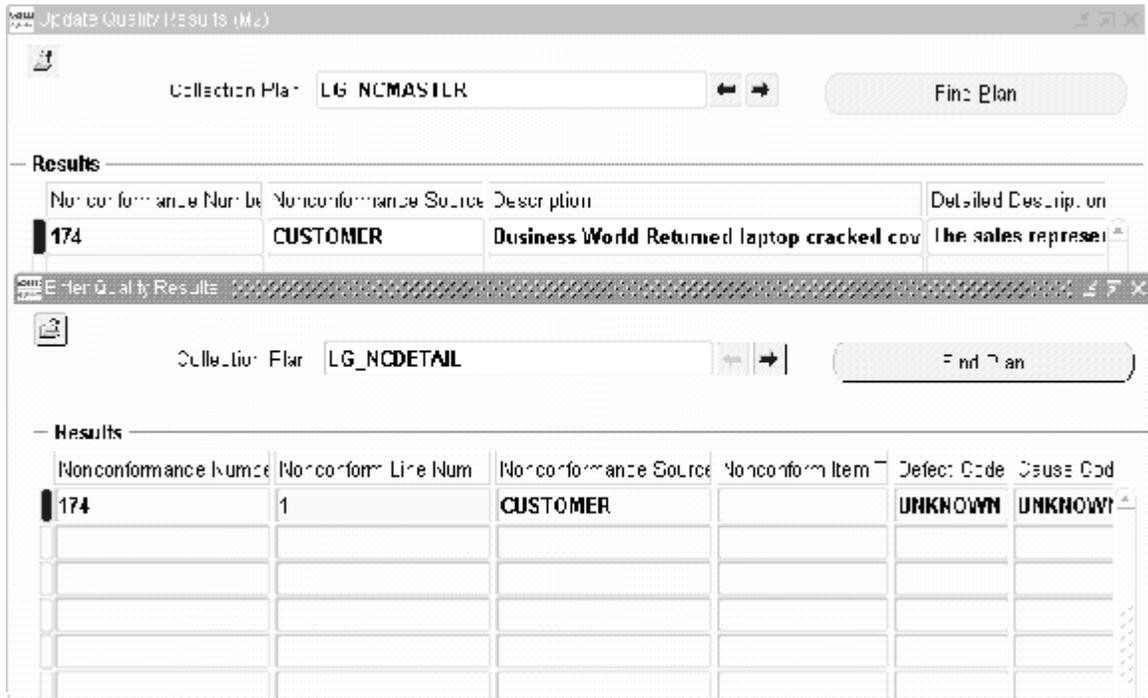
Logging a Corrective Action within the Nonconformance Detail

Within the Nonconformance detail plan, you can utilize the Log Corrective Action field to determine whether a Corrective Action is logged. Valid values are NO and YES. Because this is a serious nonconformance, the manger has chosen to initiate a CAR because the problem requires collaboration and pursuance.

> **Note:**   The Log Corrective Action Request collection element is not a seeded collection element. It is used here for example purposes. Implementers need to create this element and establish parent-child relationships between the Nonconformance and CAR plans, if desired.

Figure 12–13   Choosing to Create a Corrective Action
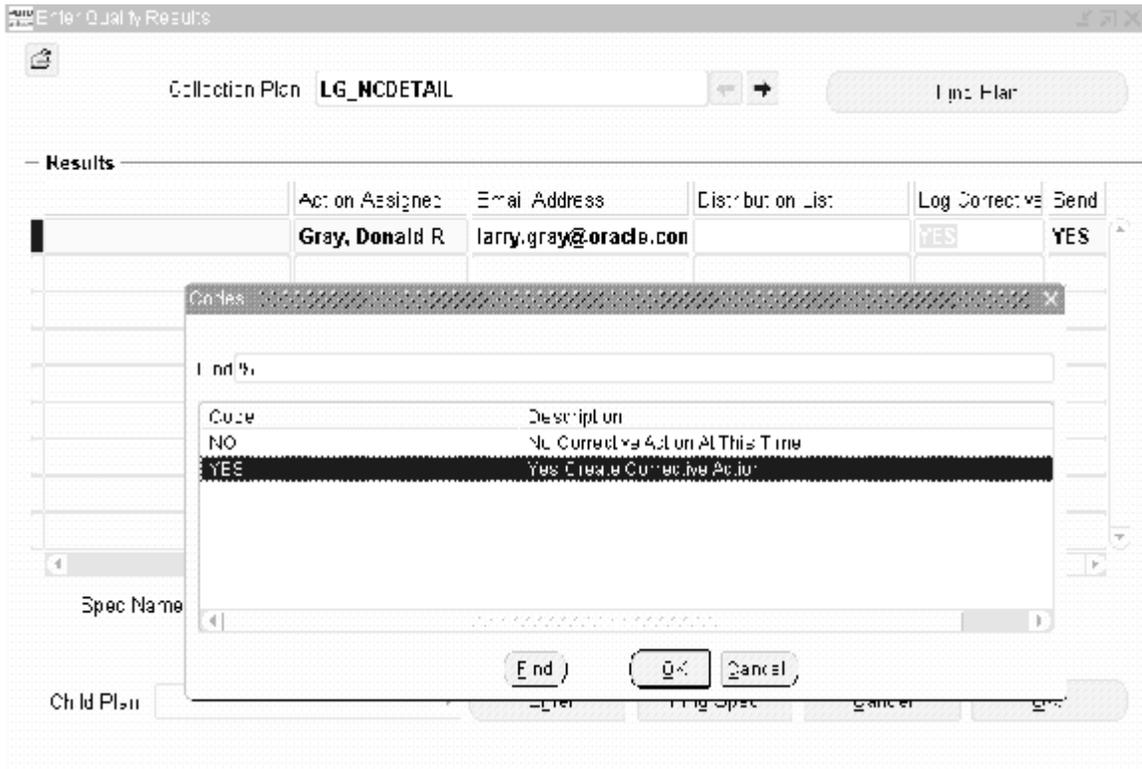
Initiating a Corrective Action Request

A Child plan for a CAR is mandatory. The Nonconformance Number is associated with the Corrective Action Number. In this example, the Nonconformance Number, 174, is linked to Corrective Action Number, 209.

Figure 12–14   Entering a CAR with Nonconformance as Request Source

Adding Information to the CAR

You can enter Corrective Action information. The requestor can send e-mail notifications and track the progress of the CAR.

Figure 12–15 Entering CAR Information

Querying the Nonconformance and Corrective Action within Self Service

Once the necessary information has been added, you can view the CAR information within Self Service. Navigate to the Parent Child Results Inquiry page. You need to enter the Organization, and then select the element to display. In this case, we want to search for information relating to Nonconformance, 174. Because Nonconformance 174 is related to Corrective Action 209, all plans that include information regarding the problem display.

Figure 12–16   Querying Nonconformance Number 174

You can view plans that contain information regarding the current Nonconformance. Below, you can see that there are two nonconformance plans containing information. You can also obtain detailed information on the CAR.

Figure 12–17 Query Results

Self Service Query of Nonconformance Master Plan

To view information regarding the Nonconformance Master Plan, you can view details of the Child plans, or view all Nonconformance Master Plan details.

Figure 12–18   Nonconformance Master Plan Details

Self Service Query of Corrective Action Request Plan

The example below displays the Corrective Action plan details. If you choose More Details, you can view all of the plan information.

Figure 12–19   Query Results for CAR Plan

You can choose the More Details icon to view the entire CAR plan. If there were attachments associated with the plan, you could view those attachments by choosing the Attachment (paperclip) icon.

Figure 12–20   Detail View of CAR Plan Query Result

Corrective Action for a Supplier

In the previous example, we have initiated a Corrective Action from a Nonconformance, and viewed the information on the CAR. There was a problem with our customer, Business World. Initially, a Nonconformance number 174 was entered, and it was determined to be a serious problem. Because it was a serious problem, Corrective Action 209 was entered. In the next example, you will see how you can coordinate with a supplier on the Corrective Action. We will process the Corrective Action, and request that our supplier change the mold used for our problem laptops' cover.

This section includes the following topics:

Process Steps

Processing the Corrective Action

The manager of the Corrective Action process, after analyzing the CAR, realized that the CAR needs to be reviewed by several departments. Once CAR 209 is queried, the CAR review plan can be selected from the Child Plan list of values.

Figure 12–21   Update CAR and Enter Review

Corrective Action - For Analysis

The CAR review plan is opened and the Action Type is changed to FOR ANALYSIS.

Figure 12–22   Enter Analysis for Corrective Action Review
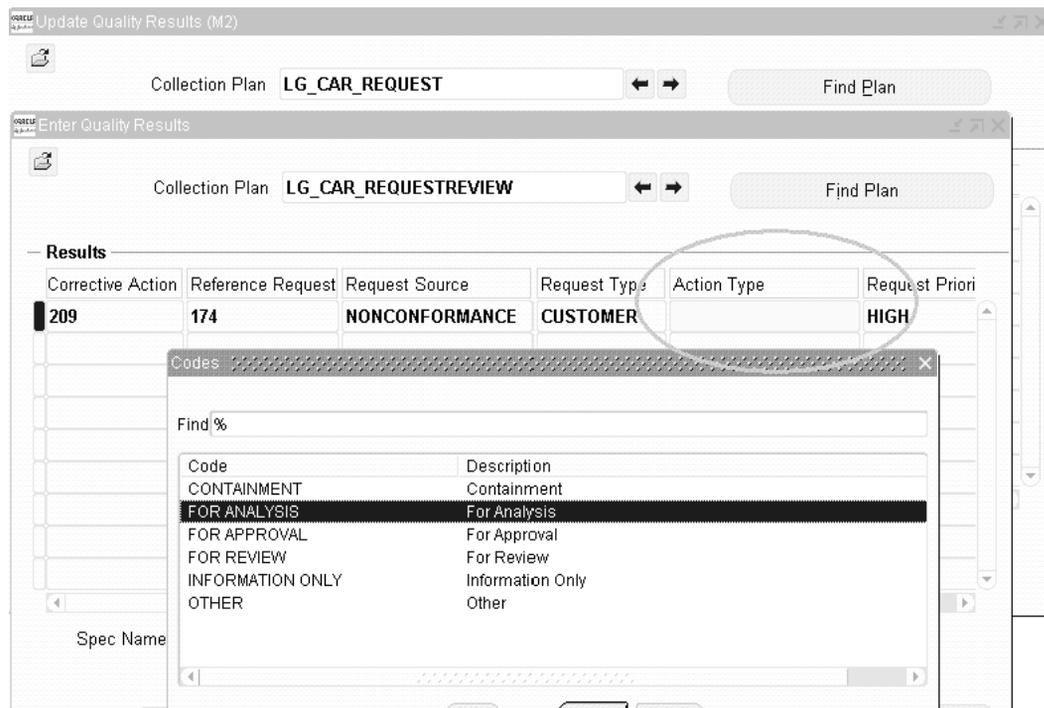
Corrective Action - Action Assigned
The analysis of the problem has been assigned to Jennifer Burton.

Figure 12–23   Assign User to Review Corrective Action

Corrective Action - Analysis Action

The analysis is entered into the long comments section with a detailed description of the corrective action.

Figure 12–24   Enter Analysis for Corrective Action Review
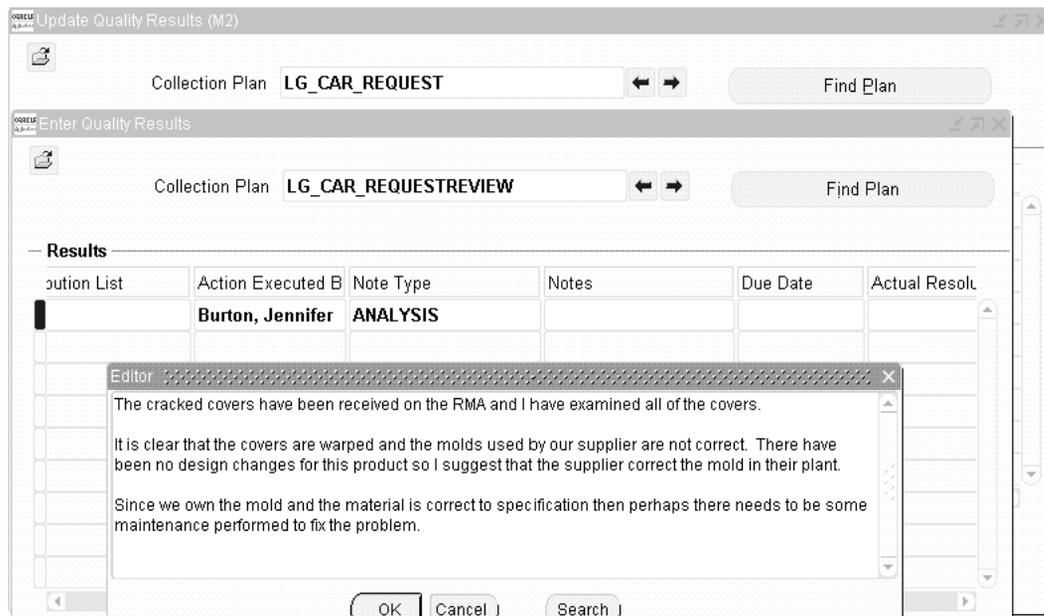
Supplier CAR Review

The supplier is asked to participate in the review of the cracked laptop covers. The supplier's e-mail is included, and the send command is YES.

Figure 12–25   Response Entered by Internal Personnel on Behalf of Supplier
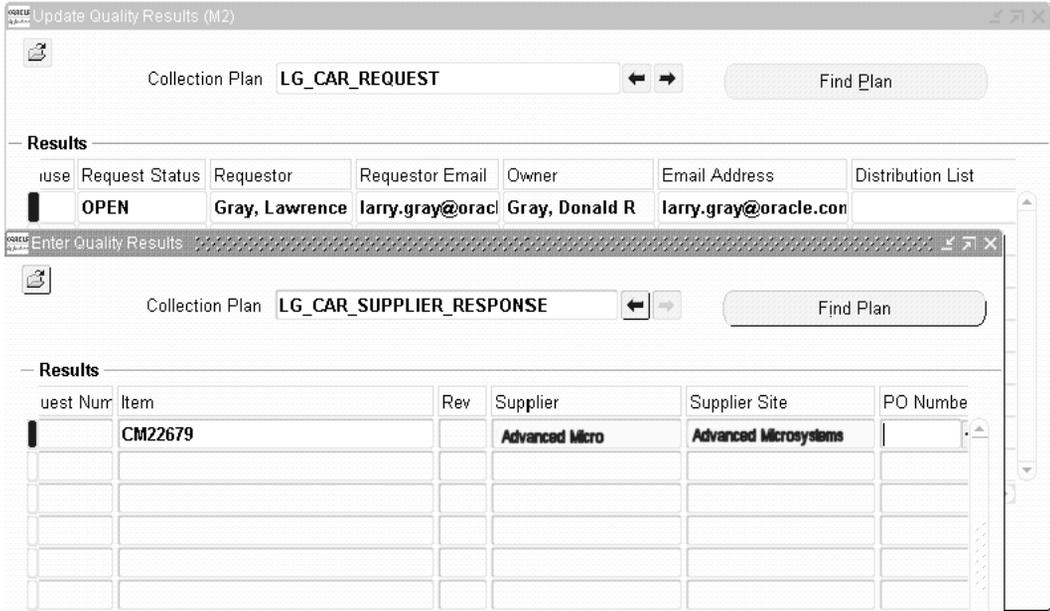
E-mail Notification to Supplier for Corrective Action

The e-mail is sent containing the engineering analysis regarding the cover problem. The supplier will need to confirm whether the molds are indeed warped and need maintenance.

Figure 12–26   Response Entered by Internal Personnel on Behalf of Supplier (continued)
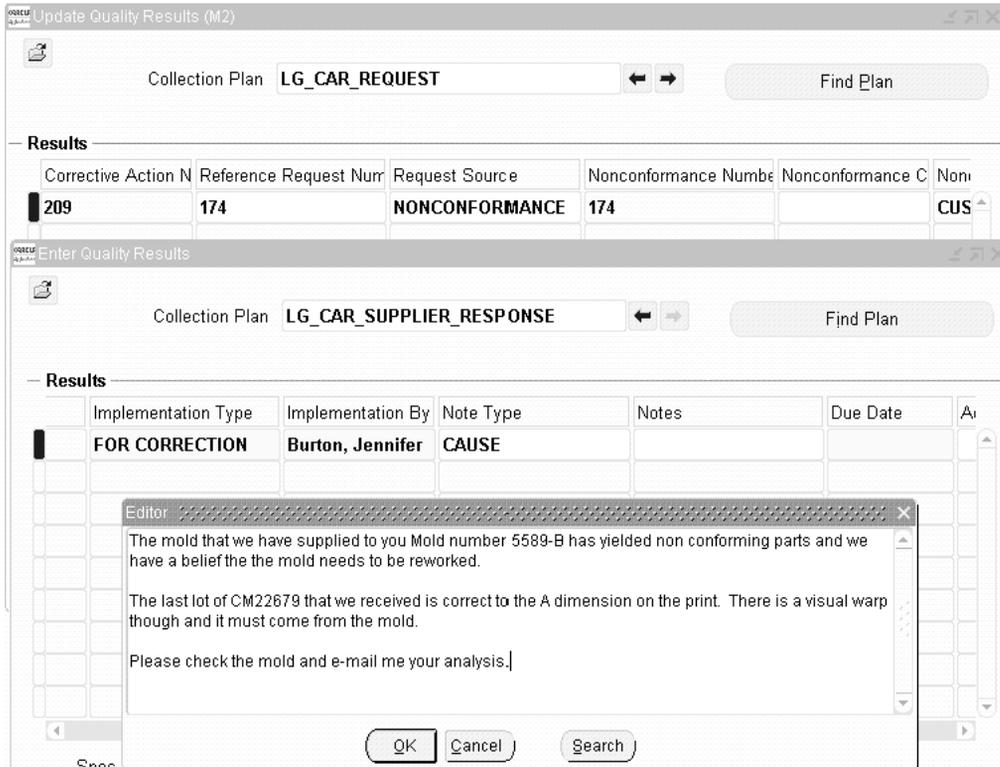
> **Note:**   The above window depicts the supplier sending the response, "The mold that we have supplier to you ... needs to be reworked...", to his contact within the enterprise. This contact will input this response into the CAR Supplier Response plan. Alternatively, the supplier could have directly entered this response via iSupplier Portal. See: Supplier Responds via iSupplier Portal on page 12-33.

Corrective Action E-mail Sent to Supplier

The e-mail below is sent to the supplier for notification of the problem. The supplier will perform an analysis, and then contact the engineer with possible alternatives for correcting the mold and the process.

Figure 12–27   Notification to Supplier

Supplier Responds via iSupplier Portal

The supplier could directly enter his response via iSupplier Portal

1. (N) Shipment > Quality.

2. Query the Purchase Order for the item, which requires Corrective Action.

Figure 12–28   Navigation on iSupplier Portal: Shipment > Quality > Available Quality Plans
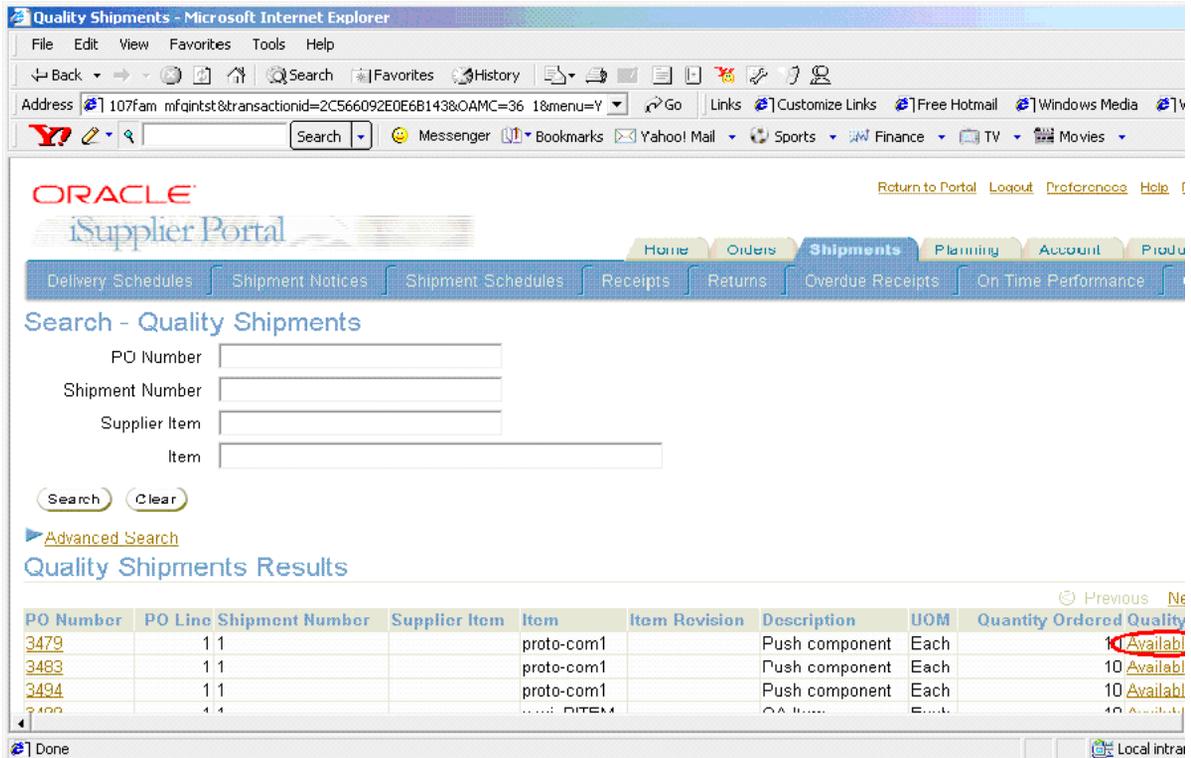
For non-material CAR purposes (a Corrective Action related to a process), a "dummy" Purchase Order (not used for purchasing any real material) can be created. That dummy Purchase Order number would then be communicated to suppliers.

3. Select the Supplier Corrective Action Response plan from the list of available Quality plans. Plans must be enabled for iSupplier Portal Shipment to be available within the list of values.

Figure 12–29   Choose Supplier Response from Available Plans
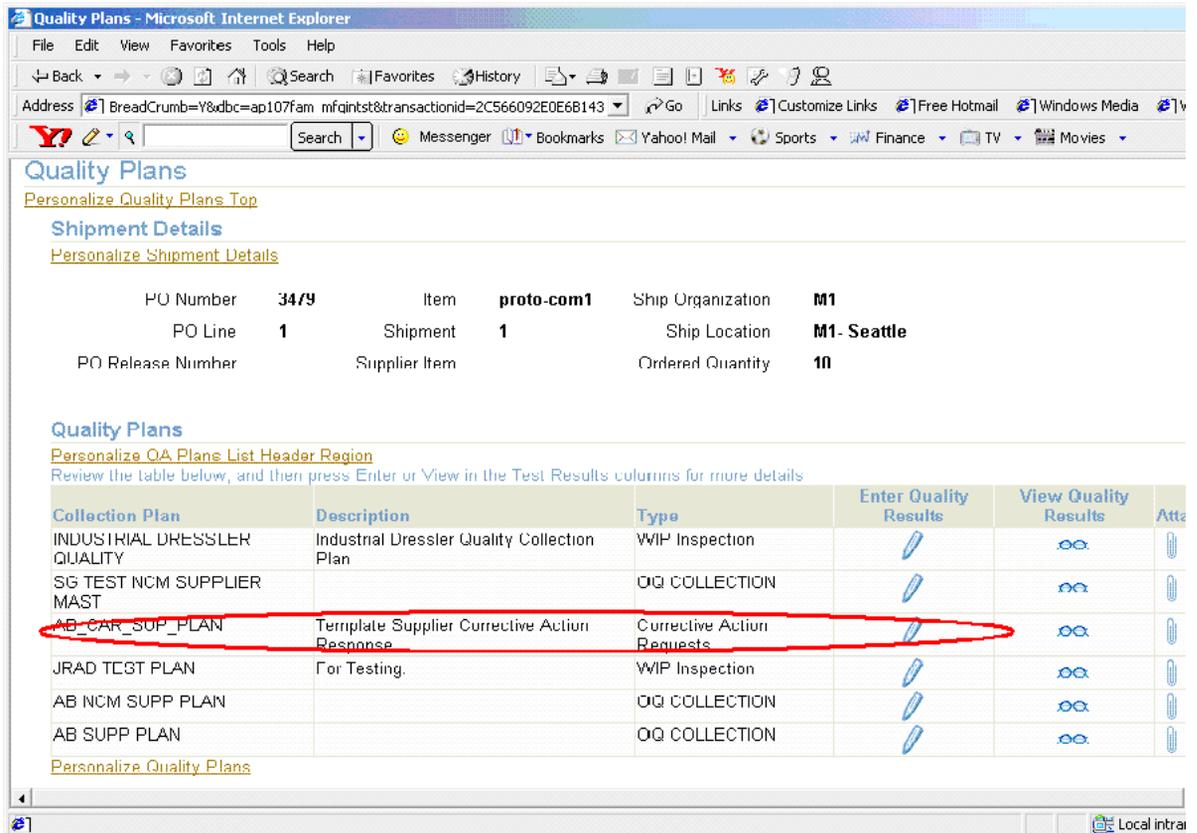
4.   Enter the response with the Corrective Action number and then save your work.

Figure 12–30   Supplier Enters Response Referencing the Corrective Action Number
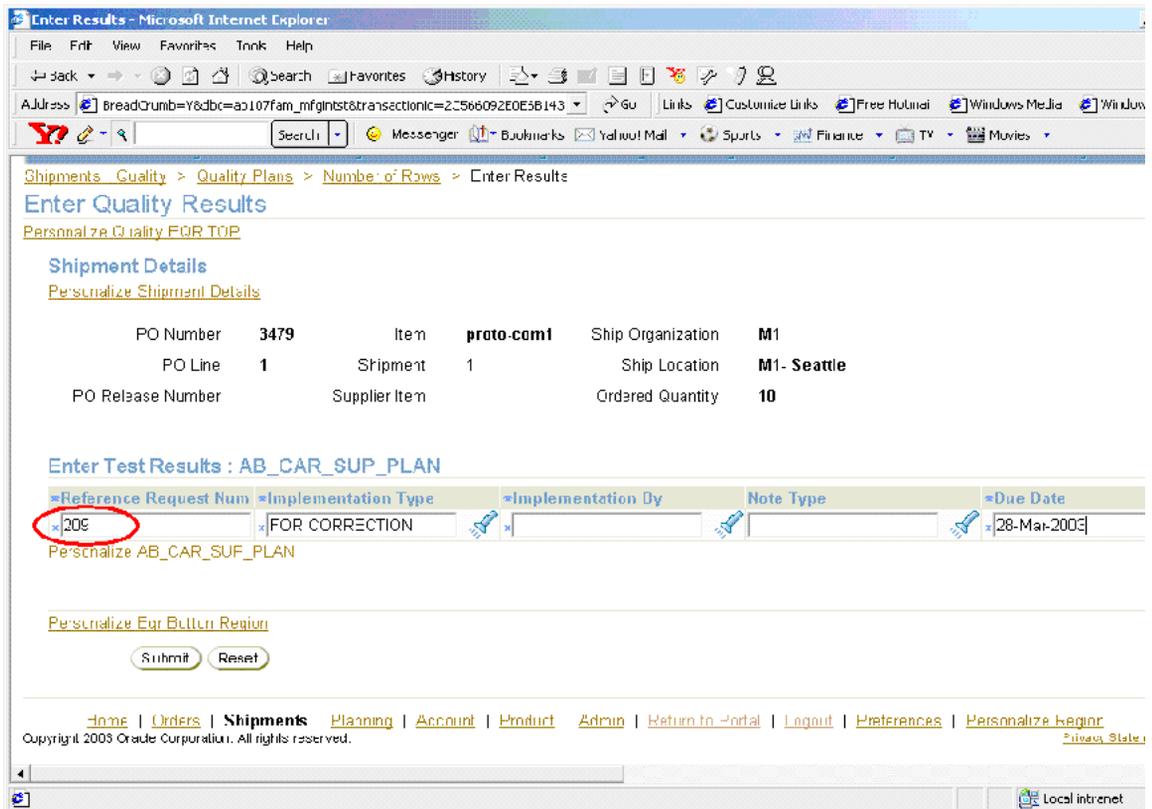
Figure 12–31 Supplier Enters Response with Attachment
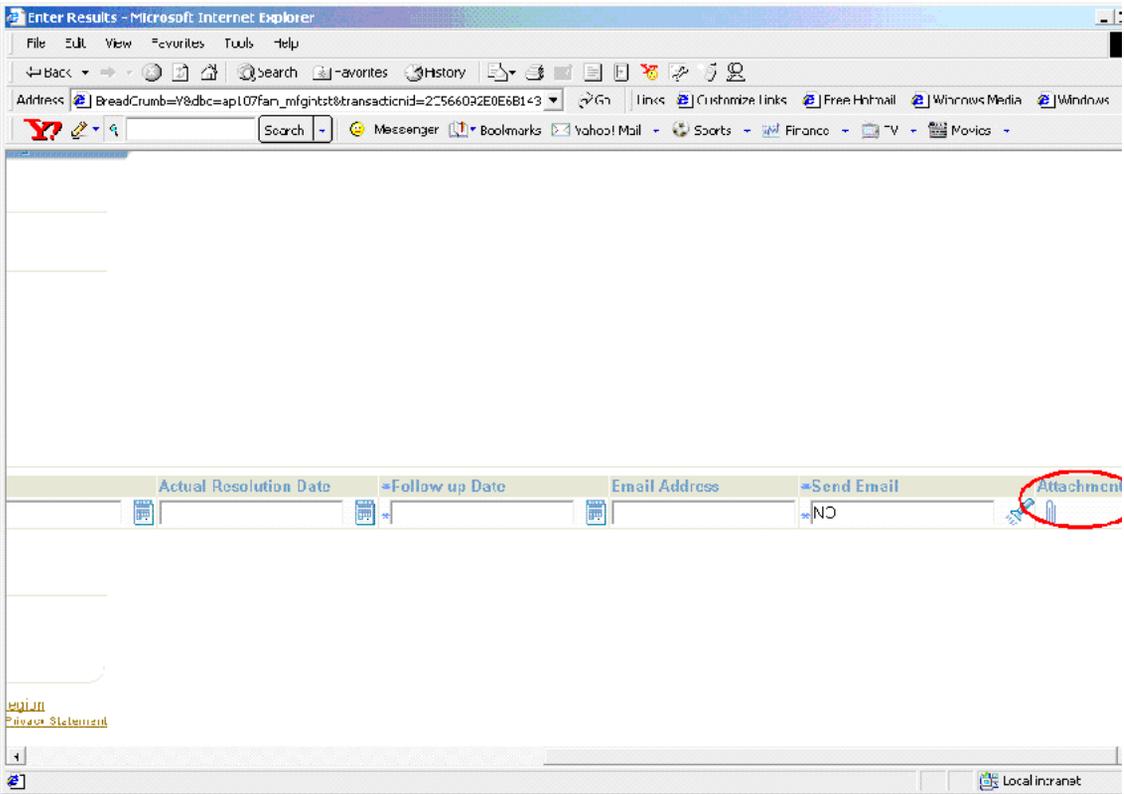
5. This response is automatically linked to the CAR plan.

> **Note:**   If you use the Oracle iSupplier Portal feature to enable
> suppliers to update the CAR with their responses, please ensure
> that you remove the Notes collection element (Comments data
> type), and replace it with another colletion element of Character
> data type, to capture supplier response.

Corrective Action from a Customer Complaint

Corrective Actions might be required because of a customer complaint. One of the configurations supported in this solution utilizes the Service/Quality integration. To take advantage of this integration, copy the template plan, Quality Service CAR, into a plan name of your choice. Associate this plan with the Service Requests (Oracle Service) transaction.

In the example described below, a customer service representative creates a service request for a customer complaint. The complaint involves a cooling fan in the desktop not working. After creating a service request, the customer representative enters data into the Quality Service CAR plan, and then passes the issue to internal personnel for further analysis and corrective action.

This section includes the following topics:

Process Steps

Logging a Service Request

The customer service representative logs a service request using the Service Request window (N) Customer Support: Service Requests > Create Service Requests.

In this example, the customer service representative creates service request number 16488 for customer, Business World. Their complaint is that the cooling fan in their desktop computer (AS54888) is not working.

Figure 12–32   Logging a Service Request

Figure 12–33   Problem Description and Details of the Service Request

Logging a Corrective Action Request

After the service request is logged, the customer service representative can access the Quality Service CAR plan. To initiate a CAR, choose the Quality icon. After the Quality results have been entered within the quality collection plan, the CAR advances through phases, as described in previous examples.

Figure 12–34 Accessing Oracle Quality from the Service Request Window
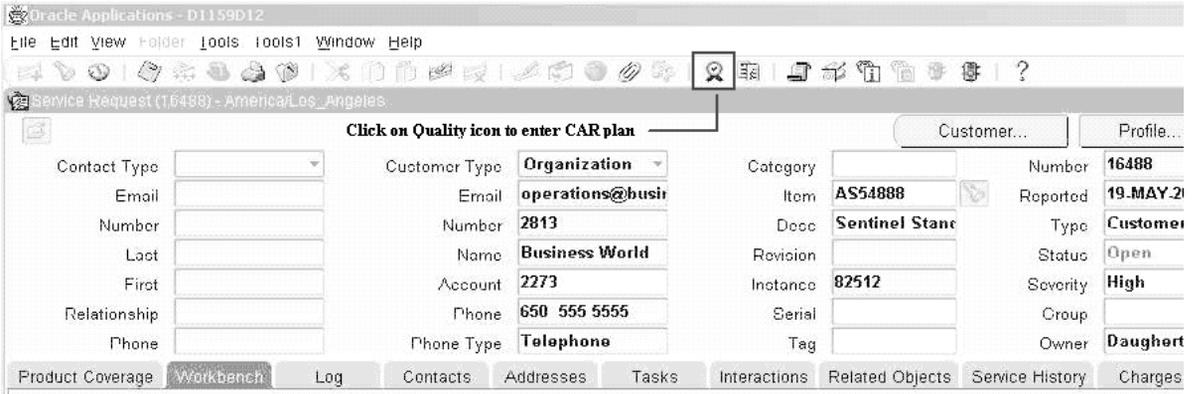
Figure 12–35 Entering CAR from the Service Request Window
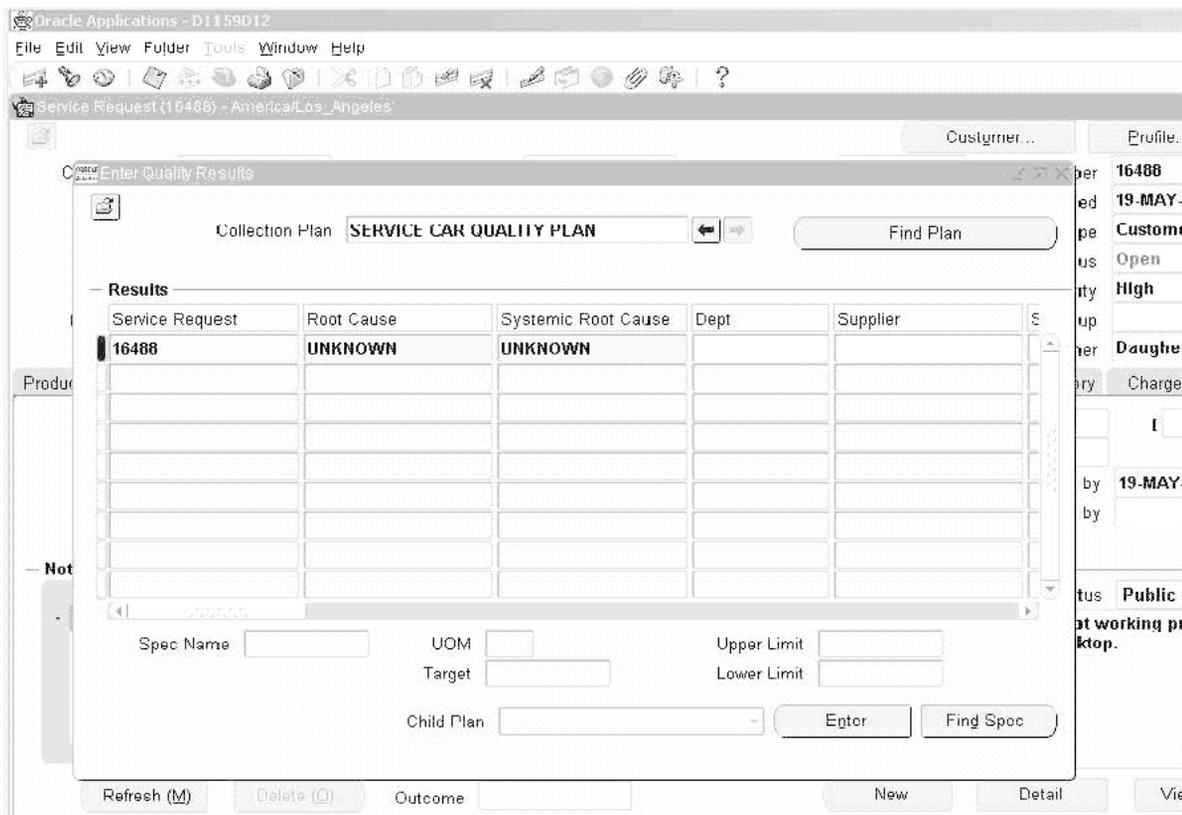
13

Reporting

Reports can be generated on Corrective Action information. This chapter contains the following topics:

❏ Reporting Overview on page 13-2

❏ Quality Results Report Writer on page 13-2

❏ Oracle Discoverer on page 13-4

Reporting Overview

Reports on Corrective Action information can be created using the following tools:

- Quality Results Report Writer - suitable for reporting on a single collection plan (Corrective Action Request or Corrective Action Implementation)

- Oracle Discoverer - suitable for analyzing data across multiple plans and providing an enterprise view of corrective action requests across multiple organizations.

This section includes the following topics:

Quality Results Report Writer

The Oracle Quality Results Report Writer can be utilized to build simple reports on corrective action requests, based on a single collection plan. Following is a list of some of the reports that can be generated:

- All Corrective Action Requested for a given item or assembly

- Supplier CARs in a specific time period

- All Open CARs

- CAR Cycle Time

- Cause Code Report

- Corrective Action Implementation Report

- Corrective Action Review History Report

The current functions (sum, count, average) available in Report Writer can be utilized to provide additional information on numerical collection elements.

Report Setup Example

We will define a report for the average time to close a CAR.

1. Navigate to the Quality Results Report Writer window.

2. Enter the following information:

   – Report Name: CAR Avg Time Closure Report

     – Collection Plan: Your CAR plan

     – Report Title: Average Time to Close a CAR

3. For report columns, list the following:

     – Request Source

     – Days to Close, Function: Average

4. Criteria: All CAR after March 1, 2003

Figure 13–1   Quality Results Report Writer - Report Definition

Report Output Example

Table 13–1   Example of Report Output

Nonconformance Source	Days to Close
Customer	2.5
Audit	3.85
Nonconformance	1.5

Oracle Discoverer

Oracle Discoverer enables you to analyze Corrective Action throughout your enterprise. Data from application schema is organized into Folders within Discoverer. The following are steps to build folders for corrective action analysis:

1. Open business area, Quality Data Collection Analysis, using the Admin edition of Discoverer.

2. Create Folders in this area from the following views:

   – Q_<CORRECTIVE ACTION REQUEST>_V

   – Q_<CORRECTIVE ACTION REQUEST HISTORY>_V

   – Q_<CORRECTIVE ACTION REVIEW>_V

   – Q_<CORRECTIVE ACTION REVIEW HISTORY>_V

   – Q_<CORRECTIVE ACTION IMPLEMENTATION>_V

   – Q_<CORRECTIVE ACTION IMPLEMENTATION HISTORY>_V

   > **Note:**   <CORRECTIVE ACTION REQUEST> refers to the name of your collection plan with spaces replaced by an underscore. the views are created dynamically when the collection plan is created or updated. The columns in the view correspond with the collection elements within the collection plan.

Figure 13–2   Create Folder Wizard in Dicoverer Admin Edition
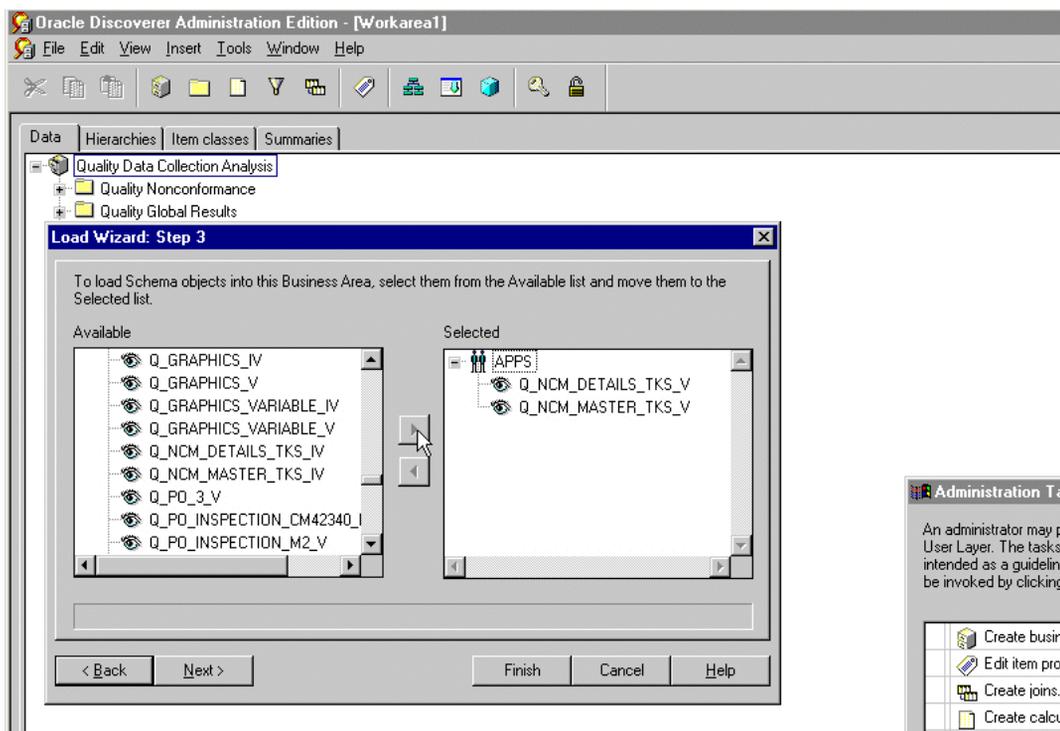
3. Create Joins for these folders:

- One to Many
  - Q_<CORRECTIVE ACTION REQUEST>_V.CORRECTIVE ACTION NUM-> Q_<CORRECTIVE ACTION REVIEW>_V.CORRECTIVE ACTION NUM

- One to Many
  - Q_<CORRECTIVE ACTION REQUEST>_V.CORRECTIVE ACTION NUM-> Q_<CORRECTIVE ACTION IMPLEMENTATION>_ V.CORRECTIVE ACTION NUM

- One to Many

- – Q_<CORRECTIVE ACTION REQUEST>_V.CORRECTIVE ACTION
    NUM-> Q_<CORRECTIVE ACTION REQUEST HISTORY>_
    V.CORRECTIVE ACTION NUM
- One to Many
    - – Q_<CORRECTIVE ACTION REVIEW>_V.CORRECTIVE ACTION
        NUM-> Q_<CORRECTIVE ACTION REVIEW HISTORY>_
        V.CORRECTIVE ACTION NUM
- One to Many
    - – Q_<CORRECTIVE ACTION IMPLEMENATION>_V.CORRECTIVE
        ACTION NUM-> Q_<CORRECTIVE ACTION IMPLEMENTATION
        HISTORY>_V.CORRECTIVE ACTION NUM

You can perform cross-plan analysis using the Dicoverer User Edition. For example, reporting all Request Types and Causes by Supplier and Dates.

See Also

Oracle Discoverer User's Guide

14

Tailoring Your Solution

This chapter illustrates how the solutions can be tailored to suit your organization requirements. **This chapter lists only examples for tailoring your implementation. The examples in this chapter are not part of Oracle's code; they have not been tested or certified by Oracle. Customers and implementors must use their discretion before implementing.** This chapter contains the following topics:

❏ Workflow Configuration on page 14-2

❏ Using Oracle Approval Management on page 14-5

❏ Tailoring E-mail Notifications on page 14-7

❏ Tips and Techniques on page 14-9

Workflow Configuration

This solution includes generic workflow notifications for the Corrective Action set of collection plans. You can replace these workflows with your own workflows. You can design Workflow notification messages in your own format. Responses entered on the notification can be written back to collection plans.

For example, you can build a new workflow based on a the Disposition Detail notification workflow:

- Send notification to the next approver (higher authority)
- Update the disposition record with an approval Reason Code from the notification

Refer to Appendix J for a list of seeded workflow notifications provided as part of the solution.

Starting Workflow Builder

1. Copy the seeded workflow, Quality Generic Process, to a new workflow name.
2. Modify the copied workflow.

Figure 14–1   Workflow Process Diagram for Nonconformance and Disposition Notification
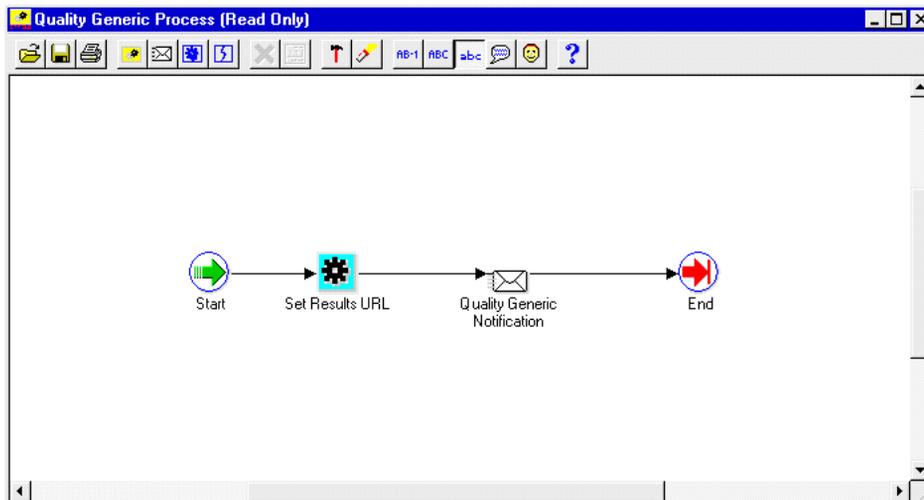
Figure 14–2   Modified Workflow Process Diagram for Corrective Action Notification

3. Add a new item attribute, X_APPROVAL_REASON, to this workflow.

4. Display this item attribute within the message body of the current workflow.

5. Add a call to the standard qa_results_wf_pkg.process_update procedure, within the Process Updates step. It can then write back all item attributes with an X_ prefix. This includes the Approval Reason.

6. Add a call to custom PL/SQL code for finding approver, within the Find Approver step. Sample PL/SQL code to achieve this is illustrated in Appendix C. This sample code is for illustration purposes only, and has not been tested or certified by Oracle.

Oracle Quality Setup

1. Add an Approval Reason element to the Disposition Detail collection plan (See: Step 9 within Setup Steps on page 11-2).

2. Replace the generic workflow, specified within the Workflow action (associated with the Send Notification element), with your new workflow.

3. Add a new token, X_APPROVAL_REASON, to the Workflow action (associated with the Send Notification element) within the Disposition Detail. Map it to the Approval Reason element within the Disposition Detail.

See Also

Using Oracle Approval Management on page 14-5

Using Oracle Approval Management

The Oracle Approval Management application can be utilized for managing CAR approval. This application enables you to define business rules governing approvals. For example:

- IF Severity = MEDIUM, then on approval is required.

- IF Severity = HIGH, then two approvals are required.

Once the rules have been defined, the workflow uses APIs (Approval Management) to find the next approver (Step 6) until all approvals are obtained or rejected.

Guidelines for Setting Up the Approval Process

1. Register Corrective Actions as a new transaction type.

2. Create Transaction attributes (Severity, Urgency, Request Type), which would be used in rules to determine approvers.

3. Define Approval Rules.

4. In the first step of your workflow process, call ame_api.setFirstAuthorityApprover with the user specified in the Send Notification To item. If you are using Oracle Approvals Management to determine the first approver, call ame_api.getNextApprover to obtain the identification of the first approver.

5. During the Find Approver step of your workflow process, call ame_api.getNextApprover to obtain the identification of the next approver.

6. If ame_api.getNextApprover returns empty ame_util.approverRecord, the transaction is approved.

7. During the Notification step, call ame_api.updateApprovalStatus. This sends the approval status to Oracle Approvals Management.

See Also

How Should a Workflow use the OAM API to Manage Approvals?, *Oracle Approvals Management Implementation Guide, Appendix C*

Oracle Workflow User's Guide

Oracle Workflow Administrator's Guide

Oracle Workflow API Reference

Oracle Workflow Developer's Guide

Oracle Workflow Customization, Oracle White Paper, August 2002

Tailoring E-mail Notifications

You can modify all e-mail notification message text, according to your business conventions. For example, you can include the Personal Home Page URL of Oracle Applications. Recipients of the e-mail are then easily directed to Oracle Applications, enabling ease in CAR response.

To tailor e-mail notifications:

1. (N) Quality: Setup > Collection Plan

2. Perform a query on the collection plan associated with the notification needing modification.

3. Select the Send Email element.

4. Choose Action.

5. Select the Send an electronic email notification action, then choose Action Details.

6. The Text area contains the notification's message text.

Figure 14–3   E-mail Alert with Oracle Applications' URL
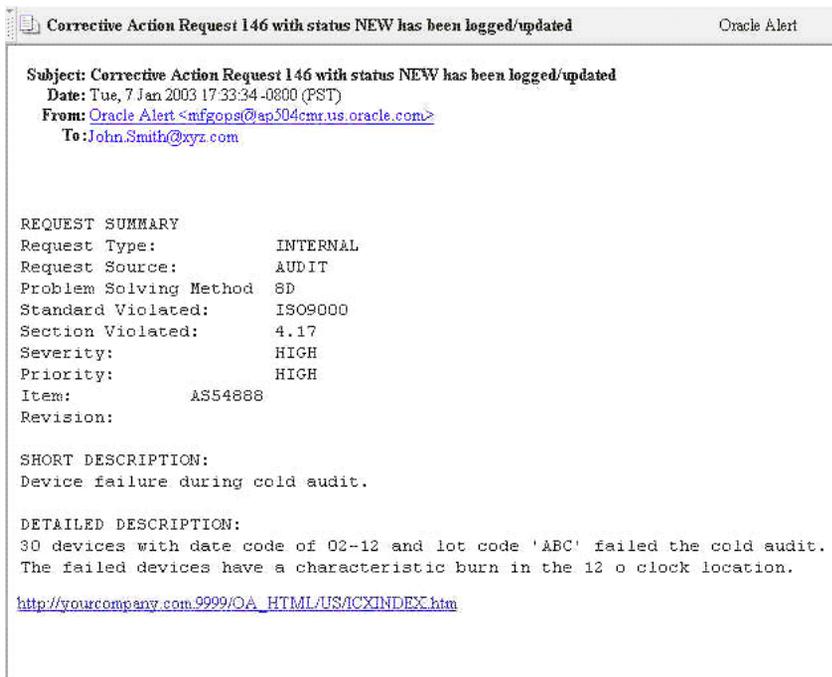
Tips and Techniques

This section includes the following topics:

- Field Security on page 14-9
- Derive User Information using Assign-a-Value on page 14-10
- Lookup Feature Using SQL Validation Strings on page 14-11
- Dependent List of Values on page 14-12
- Custom Reports on page 14-13

Field Security

Depending on your business needs, it might be desirable to make a critical element within a collection plan protected from update by specific users. For example the Implementation Status should be protected from update, within the Corrective Action Implementation plan, by the MFG and PROJMFG users. Below are the steps used to set this scenario up:

Step 1: Create a collection element to control record saving

1. (N) Quality: Setup > Collection Element

2. Enter Save (or any unused name) as the Collection Element name, Attribute as the Collection Element Type, and Character as the Data Type.

3. Save your work.

Step 2: Add elements and actions to your plan

1. (N) Quality: Setup > Collection Plan

2. Perform a query on your Corrective Action Implementation plan, and add the collection element, Save. Make sure it is enabled but not displayed.

3. Add an action to Save.

4. Action Trigger: When Save = 2

5. Action: Reject the input with the message, "this record is protected from update by the current user."

6. Add the current action to Implementation Status. When Implementation Status is entered, assign a value to Save with the following SQL script:

> **Note:** The SQL below is for example purposes. It is not part of Oracle's code; it has not been tested or certified by Oracle. Customers and implementors must use their discretion before implementing.

```
SELECT c
FROM (SELECT 2 c from dual
WHERE: parameter.user_id in (1003612, 1003614)
-- user id of users that should not be able to update the Implementation
Status
UNION ALL
SELECT 1 FROM dual)
WHERE rownum = 1
```

With this action in place, when MFG users (1003612) and PROJMFG users (1003614) attempt to update and save the disposition status, their input will be rejected and a message will display.

Derive User Information using Assign-a-Value

Information about a user, such as e-mail address and telephone number, can be retrieved by using the action, Assign-a-Value, with a SQL statement. This technique is used often. For example, the Owner collection element assigns a value to Owner E-mail, based on the following SQL query:

```
SEKECT EMAIL_ADRESS, NULL
FROM PER_EMPLOYEES_CURRENT_X
WHERE FULL_NAME = &OWNER -- &OWNER token maps to the Owner element.
```

Another example involves deriving the current user's telephone number information. This example is not included in the solution.

Setting up telephone information derivation:

1. Navigate to the Collection Element window (N) Quality: Setup > Collection Element. Create a collection element.

2. Navigate to the Collection Plan window (N) Quality: Setup > Collection Plan.

3. Query the plan that will receive the Telephone Number collection element.

4. Add the Telephone Number element to the element block.

5. Select a mandatory element and then choose Actions. Add the following action:

```
IF <collection element> is entered, assign a value to Telephone Number with
```

```
SQL:
    SELECT p.work_telephone
    FROM PER_PEOPLE_F P, FND_USER U
    WHERE P.PERSON_ID = U.EMPLOYEE_ID AND
    U.USER_ID =: PARAMETER.USER_ID AND
    ROWNUM <= 1
```

> **Note:** This SQL string is used for example purposes. It is not part
> of Oracle's code; it not been tested or certified by Oracle.
> Customers and implementors must use their discretion before
> implementing.

6. Save your work.

Lookup Feature Using SQL Validation Strings

SQL can be utilized as an element's list of values. This is widely used in this
solution. For example, the Source Owner collection element list of values is based
on the following SQL query:

```
SELECT pecx.full_name
FROM per_employees_current_x pecx, fnd_user fu
WHERE pecx.employee_id = fu.employee_id
ORDER by full_name
```

Using SQL as the list of values of an element will simulate a lookup feature. For
example, Supplier Contact Lookup (not included in the solution).

Setting up a SQL as a list of values:

After accomplishing the following setup tasks, when users enter Electrical into the
TEST TYPE field, the PROBLEM CODE list of values will display Short, No Solder,
and Broken Lead.

1. Navigate to the Collection Element window (N) Quality: Setup > Collection
    Element.

2. Create a Supplier Contact collection element.

3. Enter the following SQL Validation String:

```
SELECT p.first_name ll ' ' ll p.last_name ll ' ' ll
p.area_code ll '-' ll p.phone_code, v.vendor_name description
FROM PO_VENDOR_CONTACTS P, PO_VENDOR_SITES S, PO_VENDORS V
WHERE P.VENDOR_SITE_ID = S.VENDOR_SITE_ID
```

```
AND S.VENDOR_ID = V.VENDOR_ID
ORDER BY 2, 1
```

4. Navigate to the Collection Plan window (N) Quality: Setup > Collection Plan.

5. Query the plan that will receive the Supplier Contact collection element.

6. Add the Supplier Contact element to the element block.

7. Save your work.

   You can now display this element's list of values. You can use it to find the name and phone number of a contact person, for any supplier.

   > **Note:** This SQL string is used for example purposes. It is not part of Oracle's code; it has not been tested or certified by Oracle. Customers and implementors must use their discretion before implementing.

Dependent List of Values

The solution has not included any dependent lists of values. Displaying a different list of values for one element, depending on the value of another element, is a dependency example.

For example, your business requires the PROBLEM CODE element value to depend on the TEST TYPE element value. The PROBLEM CODE values could be named with the following prefixes:

Table 14–1   Value Prefixes

TEST TYPE	Dependent PROBLEM CODE
Electrical	E - Short
Electrical	E - No Solder
Electrical	E - Broken Lead
Mechanical	M - Damaged Component
Mechanical	M - Corrosion
Mechanical	M - Missing Pieces

Setting up a dependent list of values:

1. Navigate to the Collection Plan window (N) Quality: Setup > Collection Plan.

2. Query your Nonconformance plan.

3. Within the PROBLEM CODE element, choose Values. Enter the values within the above table.

4. Within the TEST TYPE element, choose Actions. Enter the following actions:

   ■ IF TEST TYPE is equal to Electrical, assign a value to PROBLEM CODE with value E%.

   ■ IF TEST TYPE is equal to Mechanical, assign a value to PROBLEM CODE with value M%.

5. Save your work.

Custom Reports

You can write reports that are tailored to your business needs, using custom SQL. The *Oracle Applications System Administrator's Guide* recommends custom SQL and a concurrent process to be defined, within a customer application (in this case, custom Quality).

Setting up a custom report:

1. Save your SQL under the directory, <custom Quality's base path>/sql/ (See: Applications DBA Duties, *Oracle Applications System Administrator's Guide* for information on registering a new or custom application and where the Applications DBA specifies a base path for the application). Name it with your business' convention. Prefix it with custom Quality short name, and suffix it with .sql (XXCQA_CARREP.sql).

2. Navigate to the Concurrent Program Executable window (N) System Administrator: Concurrent > Program > Executable. Define an executable with SQL *Plus program style.

Figure 14–4   Define Concurrent Program Executable
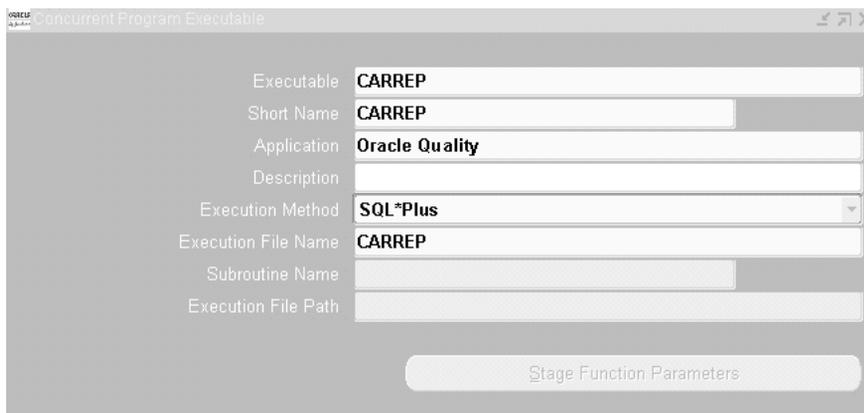
3. (N) System Administrator: Concurrent > Program > Define. Define a process, Corrective Action Report. For example, use the above executable.

4. Choose Parameters. Enter three parameters in the following order:

Table 14–2   Parameters

Parameter	Value Set	Corresponding Parameter in QACAR.sql
Corrective Action Num	QA_SRS_PLAN	&1
Plan Prefix	QA_SRS_PLAN	&2

The value sets are predefined and used for validation of parameter values.

Figure 14–5   Concurrent Program Definition

Executing the custom report:

1. Within the Manufacturing and Distribution Superuser responsibility, navigate to the Submit Request window (N) Quality: Reports > Submit Request.

2. Select Corrective Action Report from the Name list of values (or any name that you created while setting up), and submit the process.

See Also

Oracle Applications System Administrator's Guide

Sample Code for Custom SQL*Plus Report on page I-2 for a description and the sample code of the custom report.

G

Seeded Template Collection Plan Structure

The following graphic represents a pictorial format of the seeded template collection plan structure.

Figure G–1   Corrective Action Parent-Child Collection Plan Structure
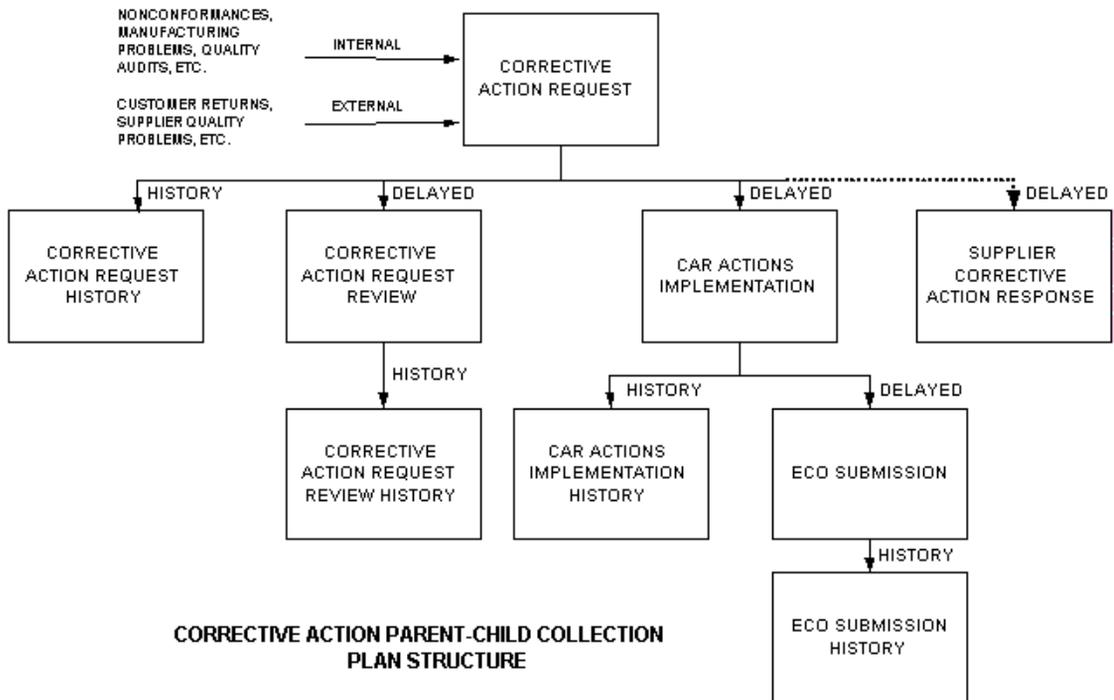
H

Seeded Template Collection Plan Details

This appendix lists all seeded template collection plans and elements for the corrective action solution. The following topics are discussed:

❏ Template Corrective Action Request on page H-2

❏ Template Corrective Action Request Review on page H-6

❏ Template CAR Actions Implementation on page H-8

❏ Template ECO Submission on page H-11

❏ Template Supplier Corrective Action Response on page H-13

❏ Template Quality Service CAR on page H-15

Template Corrective Action Request

This collection plan enables you to report or log a corrective action request (CAR). An owner is assigned to the CAR. The owner then decides to accept or reject the request, and it becomes the responsibility of the owner to take the appropriate actions.

The Collective Action Request plan contains the following collection elements:

Table H–1   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Corrective Action Num	Corrective Action Num
20	Reference Request Num	Reference Request Num
30	Request Source	Request Source
40	Request Type	Request Type
50	Source Reference ID	Source Reference ID
60	Standard Violated	Standard Violated
70	Section Violated	Section Violated
80	Problem Solving Method	Problem Solving Method
90	Item	Item
100	Revision	Rev
110	Customer	Customer
120	Sales Order Number	Sales Order Number
130	RMA Number	RMA Number
140	Contract Number	Contract Number
150	Contract Line Number	Contract Line Number
160	Deliverable Number	Deliverable Number
170	Supplier	Supplier
180	Supplier Site	Supplier Site
190	PO Number	PO Number
200	PO Line Number	Line
210	PO Release Number	Rel

Table H–1   Plan Details

Prompt Sequence	Collection Element Name	Prompt
220	PO Shipment	Shipment
230	PO Receipt Number	Receipt
240	Department	Dept
250	Request Priority	Request Priority
260	Request Severity	Request Severity
270	Short Description	Problem Description
280	Detailed Description	Detailed Description
290	Cause Code	Cause Code
300	Root Cause	Root Cause
310	Systemic Root Cause	Systemic Root Cause
320	Request Status	Request Status
330	Requestor	Requestor
340	Source Owner Email	Requestor Email
350	Owner	Owner
360	Email Address	Email Address
370	Distribution List	Distribution List
380	Date Opened	Date Opened
390	Date Closed	Date Closed
400	Expected Resolution Date	Expected Resolution Date
410	Actual Resolution Date	Actual Resolution Date
420	Follow up Date	Follow up Date
430	Approved By	Approved By
440	Approval Date	Approval Date
450	Send Email	Send Email
460	Total Actions	Total Actions
470	Pending Actions	Pending Actions
480	Review Cost Estimate	Review Cost Estimate

Table H–1   Plan Details

Prompt Sequence	Collection Element Name	Prompt
490	Review Cost Actual	Review Cost Actual
500	Implementation Estimate	Implementation Estimate
510	Implementation Actual	Implementation Actual
520	Days to Close	Days to Close
530	Workflow Notification	Workflow Notification
540	Send Notification To	Send Notification To

Table H–2   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template Corrective Action Request	Template Corrective Action Request History	History	All elements are copied to child plan to maintain audit trail
2	Template Corrective Action Request	Template Corrective Action Request Review	Delayed	Corrective Action Num, Reference request Num, Request Source, Request Type, Item, Revision, and Request Priority are copied to the child plan. Review Cost Estimate, Implementation Actual, and Pending Actions are the summation of the corresponding elements within the child plan.
3	Template Corrective Action Request	Template Corrective Action Request Implementation	Delayed	Corrective Action Num, Reference request Num, Request Source, Request Type, Item, Revision, and Request Priority are copied to the child plan. Implementation Estimate, Implementation Actual, and Pending Actions are the summation of the corresponding elements within the child plan.

Table H–2   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
4	Template Corrective Action Request	Template Supplier Corrective Action Response	Delayed	Corrective Action Num is copied to the child plan.

Table H–3   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Requestor	Is entered	Default the e-mail address of the requestor	-
2	Owner	Is entered	Default the e-mail address of the owner	-
3	Date Opened	Is Empty	Assign a value to a collection element	Make Date opened as current date
4	Request Status	Equals CLOSED	Assign a value to a collection element	Update Date Closed with current date
5	Days to Close	Date Closed is entered	Assign a value to a collection element	Calculate the Days to Close
6	Send Email	Equals YES	Send an electronic email notification	-
7	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template Corrective Action Request Review

This collection plan enables you to report and assign tasks for review, and analyze problems. You can then communicate with the appropriate parties during the analysis phase, for a corrective action request.

The Collective Action Request plan contains the following collection elements:

Table H–4   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Corrective Action Num	Corrective Action Num
20	Reference Request Num	Reference Request Num
30	Request Source	Request Source
40	Request Type	Request Type
50	Request Priority	Request Priority
60	Request Severity	Request Severity
70	Item	Item
80	Revision	Rev
90	Request Status	Review Action Status
100	Action Type	Action Type
110	Action Description	Action Description
120	Action Assigned to	Action Assigned to
130	Email Address	Email Address
140	Distribution List	Distribution List
150	Action Executed By	Review Executed By
160	Note Type	Note Type
170	Notes	Notes
180	Expected Resolution Date	Due Date
190	Actual Resolution Date	Actual Resolution Date
200	Send Email	Send Email
210	Review Cost Estimate	Review Cost Estimate
220	Review Cost Actual	Review Cost Actual

Table H–4   Plan Details

Prompt Sequence	Collection Element Name	Prompt
230	Approved By	Approved By
240	Approval Date	Approval Date
250	Workflow Notification	Workflow Notification
260	Send Notification To	Send Notification To

Table H–5   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template Corrective Action Request Review	Template Corrective Action Request Review History	History	All elements are copied to child plan to maintain audit trail

Table H–6   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Action Assigned to	Is entered	Default the e-mail address of the assignee	-
2	Send Email	Equals YES	Send an electronic email notification	-
3	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template CAR Actions Implementation

This collection plan enables you to assign, update, and communicate implementation actions, such as Containment, Preventive, and Corrective Actions.

The Collective Action Request plan contains the following collection elements:

Table H–7   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Corrective Action Num	Corrective Action Num
20	Reference Request Num	Reference Request Num
30	Request Source	Request Source
40	Request Type	Request Type
50	Request Priority	Request Priority
60	Request Severity	Request Severity
70	Item	Item
80	Revision	Rev
90	Request Status	Implementation Status
100	Implementation Type	Implementation Action
110	Short Description	Short Description
120	Action Assigned to	Action Assigned to
130	Email Address	Email Address
140	Distribution List	Distribution List
150	Action Executed By	Review Executed By
160	Note Type	Note Type
170	Notes	Notes
180	Expected Resolution Date	Due Date
190	Actual Resolution Date	Actual Resolution Date
200	Follow up Date	Follow up Date
210	Send Email	Send Email
220	Implementation Estimate	Implementation Estimate
230	Implementation Actual	Implementation Actual

Table H–7   Plan Details

Prompt Sequence	Collection Element Name	Prompt
240	Pending Actions	Pending Actions
250	Approved By	Approved By
260	Approval Date	Approval Date
270	Workflow Notification	Workflow Notification
280	Send Notification To	Send Notification To

Table H–8   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template CAR Actions Implementation	Template CAR Actions Implementation History	History	All elements are copied to child plan to maintain audit trail
2	Template CAR Actions Implementation	Template ECO Submission	Delayed	Some of the elements are copied from parent to child plans

Table H–9   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Action Assigned to	Is entered	Default the e-mail address of the assignee	-
2	Request Status	Equals CLOSED	Assign a Value to a collection element	-
3	Send Email	Equals YES	Send an electronic email notification	-

Table H–9   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
4	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template ECO Submission

This collection plan will enable you to submit an ECO Header, as a result of a Corrective Action Request.

The Collection Plan contains the following collection elements:

Table H–10   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Corrective Action Num	Corrective Action Num
20	Reference Request Num	Reference Request Num
30	Request Source	Request Source
40	Request Type	Request Type
50	Item	Item
60	Revision	Rev
70	New ECO Name	New ECO Name
80	ECO Type	ECO Type
90	ECO Description	ECO Description
100	ECO Approval List	ECO Approval List
110	ECO Reason Code	ECO Reason Code
120	Requestor	Requestor
130	ECO Department	ECO Department
140	ECO Priority	ECO Priority
150	Launch Action	Launch Action
160	Action Fired	Action Fired
170	Disposition Status	Submission Status
180	Disposition Message	Submission Message
190	Email Address	Email Address
200	Distribution List	Distribution List
210	ECO Name	ECO Name

Table H–11   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template ECO Submission	Template ECO Submission History	History	All elements are copied to child plan to maintain audit trail

Table H–12   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Requestor	Is entered	Default the e-mail address	-
2	Launch Action	Equals YES	Execute a SQL Script	ECO header is created
3	Disposition Status	Equals FAILED, SUCCESS, WARNING	Send an electronic email notification	-
4	Workflow Notification	Equals YES	Launch a Workflow	Sends a workflow notification

Template Supplier Corrective Action Response

This collection plan enables suppliers to respond to a CAR via iSupplier Portal.

The Collection Plan contains the following collection elements:

Table H–13   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Reference Request Num	Reference Request Num
20	Item	Item
30	Revision	Rev
40	Supplier	Supplier
50	Supplier Site	Supplier Site
60	PO Number	PO Number
70	PO Line Number	Line
80	PO Release Number	Rel
90	PO Shipment	Shipment
100	Implementation Type	Implementation Type
110	Action Executed By	Implementation By
120	Note Type	Note Type
130	Notes	Notes
140	Expected Resolution Date	Due Date
150	Actual Resolution Date	Actual Resolution Date
160	Follow up Date	Follow up Date
170	Email Address	Email Address
180	Send Email	Send Email

> **Warning: If you plan to use Oracle iSupplier Portal to enable suppliers to directly record their responses to the CAR, please remove the Notes collection element from this plan; add a new element of datatype Character.**

Table H–14   Parent-Child Relationships

Relationship Number	Parent Plan	Child Plan	Data Entry Mode	Element Relationships
1	Template Supplier Corrective Action Response	Template Supplier Corrective Action Response History	History	All elements are copied to child plan to maintain audit trail

Table H–15   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Send Email	Equals YES	Send an electronic e-mail notification	-
2	Reference Request Num	Is entered	Execute a SQL Script	Relate the record to parent

Template Quality Service CAR

It is possible to use the Quality/Service integration to initiate and trace a CAR through its lifecycle. Since Service Requests does not capture all information relevant to the CAR, some information needs to be collected via Oracle Quality.

To facilitate this, a single, stand-alone collection plan containing data elements (not existing in Service) is used. It can be associated with Service Requests.

The Collection Plan contains the following collection elements:

Table H–16   Plan Details

Prompt Sequence	Collection Element Name	Prompt
10	Service Request	Service Request
20	Department	Dept
30	Supplier	Supplier
40	Supplier Site	Supplier Site
50	PO Number	PO Number
60	PO Line Number	Line
70	PO Release Number	Rel
80	PO Shipment	Shipment
90	Root Cause	Root Cause
100	Systemic Root Cause	Systemic Root Cause
110	Review Cost Estimate	Review Cost Estimate
120	Review Cost Actual	Review Cost Actual
130	Implementation Estimate	Implementation Estimate
140	Implementation Actual	Implementation Actual
150	New ECO Name	New ECO Name
160	ECO Type	ECO Type
170	ECO Description	ECO Description
180	ECO Approval List	ECO Approval List
190	ECO Reason Code	ECO Reason Code
200	Requestor	Requestor

Table H–16   Plan Details

Prompt Sequence	Collection Element Name	Prompt
210	ECO Department	ECO Department
220	ECO Priority	ECO Priority
230	Launch Action	Launch Action
240	Action Fired	Action Fired
250	Disposition Status	Submission Status
260	Disposition Message	Submission Message
270	Email Address	Email Address
280	Send Email	Send Email
290	Distribution List	Distribution List
300	ECO Name	ECO Name

Table H–17   Seeded Collection Plan Actions

Action Number	Collection Element	Condition and Value	Action Invoked	Comment
1	Send Email	Equals YES	Send an electronic e-mail notification	-
2	Launch Action	Equals YES	Execute a SQL Script	Create ECO Header

I

Sample Code

This appendix provides code for example purposes. The examples in this chapter are not part of Oracle's code; they have not been tested or certified by Oracle. Customers and implementors must use their discretion before implementing.

This appendix includes the following topics:

❏ Sample Code for Custom SQL*Plus Report on page I-2

Sample Code for Custom SQL*Plus Report

```
SET HEADING ON
SET VERIFY OFF
SET PAGESIZE 10000

REM
REM The first query is a join between CAR request and review.
REM It flattens the master and the detail into one result set.
REM And then the result set is fomratted into two blocks, a
REM "header block" with common information, and a detail
REM block with detail descriptions.
REM

REM
REM The following block of COLUMN statements declares what
REM data elements should appear in the header block.
REM (NOPRINT suppresses their value in the detail)
REM

COLUMN today NOPRINT NEW_VALUE today
COLUMN car_no NOPRINT NEW_VALUE car_no
COLUMN part_no NOPRINT NEW_VALUE part_no
COLUMN part_desc NOPRINT NEW_VALUE part_desc
COLUMN revision NOPRINT NEW_VALUE revision
COLUMN work_order NOPRINT NEW_VALUE work_order
COULMN car_qty NOPRINT NEW VALUE car_qty
COLUMN car_source NOPRINT NEW_VALUE car_source
COLUMN car_severity NOPRINT NEW_VALUE car_severity
COLUMN car_status NOPRINT NEW_VALUE car_status
COLUMN from_op_seq NOPRINT NEW_VALUE from_op_seq

REM
REM The following block fo COLUMN statements declares the
REM look and feel format of the detail elements.
REM

COLUMN note_type FORMAT A15 TRUNCATE HEADING "Review Type"
COLUMN notes FORMAT A30 WORD_WRAPPED HEADING "Action"
COLUMN due_date FORMAT A10 TRUNCATE HEADING "Due Date"
COLUMN actual_resolution_date FORMAT A11 TRUNCATE HEADING "Actual Date"

REM
REM The following is the look and feel of the header block.
REM
```

```
TTITLE CENTER 'CAR REPORT' skip 1 -
CENTER today skip 3 -
LEFT 'CAR Number  :' car_no skip 1 -
LEFT 'Part Number :' part_no skip 1 -
LEFT 'Description :' part_desc skip 1 -
LEFT 'Source      :' car_source skip 1 -
LEFT 'Severity    :' car_severity skip 1 -
LEFT 'Status      :' car_status skip 2 -

SELECT sysdate today,
       car_req.corrective_action_num car_no,
       car_req.item part_no,
       substr(msi.description, 1, 75) part_desc,
       car_req.revision,
       car_req.request_source car_source,
       car_req.request_severity car_severity,
       car_req.request_status car_status,
       car_rvw.expected_rsolution_date due_date,
       car_rvw.actual_rsolution_date actual_resolution_date,
       car_rvw.action_type note_type,
       car_rvw.action_description notes,
FROM   q_&&2_request_v car_req,
       q_&2._review_v car_rvw,
       mtl_system_items_kfv msi
WHERE  car_req.corrective_action_num = '&&1' AND
       car_req.corrective_action_num = car_rvw.corrective_action_num (+) AND
       car_req.item_id = msi.inventory_item_id (+) AND
       car_req.organization_id = msi.organization_id (+)
/
```

J

Seeded Workflow Notifications

This appendix lists all seeded workflow notifications provided as part of the Corrective Action solution. This chapter includes the following topics:

❏ Seeded Workflow Notifications on page J-2

Seeded Workflow Notifications

The following is a list of seeded workflow notifications provided as part of the Corrective Action solution:

- Corrective Action Implementation Notification
- Corrective Action Request Notification
- Corrective Action Review Notification

See Also

K

Windows and Navigation Paths

Windows and Navigation Paths

This appendix provides the default navigator paths for the windows used in the Oracle Quality. The following table provides the default navigation paths. Brackets [] indicate a button.

Default Navigation Paths for Standard Application Windows

Table 14–3   Quality-Related Windows and Navigation Paths

Window Name	Navigation Path
Collection Elements	Quality: Setup > Collection Element
Collection Plans	Quality: Setup > Collection Plans
Copy Collection Plans	Quality: Setup > Copy Collection Plans
Enter Quality Results	Quality: Setup > Corrective Action > Enter Corrective Action Request
Grant Privileges	Quality: Setup > Grant Privileges
Parent Child Results Inquiry	Quality: Results > Inquiries > Parent Child Results Inquiry
Quality Results Report-Writer	Quality: Results > Quality Results Report Writer
Quality Shipments	iSupplier Portal: Shipment > Quality > Available Quality Plans
Update Parent Child Plan Relationships	Quality: Setup > Update Parent Child Plan Relationship
User Groups	Quality: Setup > User Groups

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