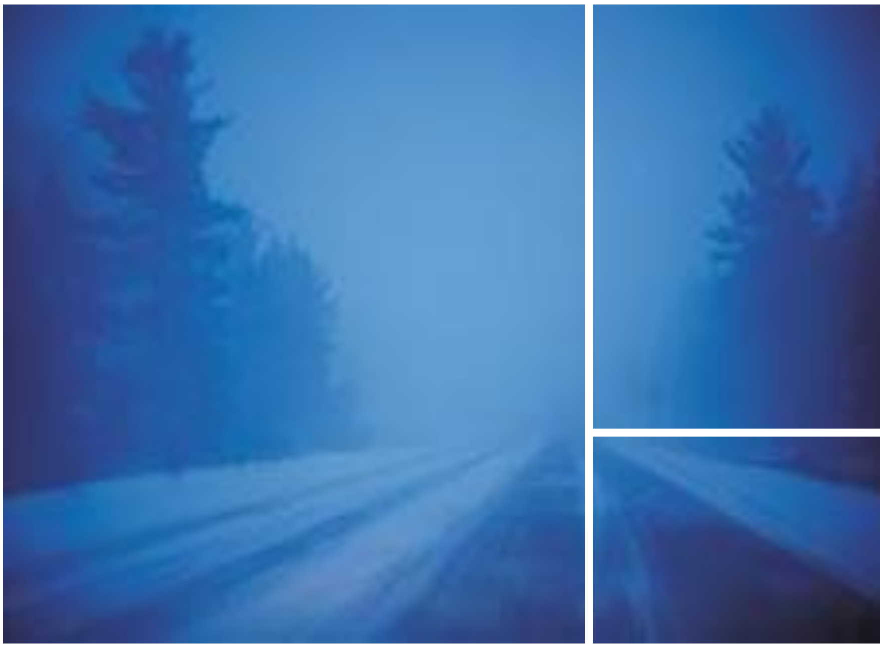
Exor Corporation Limited



Maintenance Manager
Inspection Loader v4.4

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Quality Assurance Statement

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1	Nov 2010	AH	All	Released with v4.3
2	May 2011	IS	P18-28	Inspection loader error correction and summary form changed for v4.4

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Bulk Loading Inspections

Before starting to load inspection data you should have loaded your network and checked the reference data meets operational requirements using the relevant process and modules.

The following ***Product Options - HIG9130*** will also need checking to ensure the system is configured to match the organisation’s business process requirements. Product options are usually set up and maintained by the system administrator.

DEFMATPAR

Default matching defect parameter.
Enter a numeric value that will represent the minimum distance between defects allowed for automatic defect superseding when using the inspection loaders. Superseding is an automatic process and therefore does not take place when defects are loaded manually using ***Locator Create Defects – MAI3807***, ***Inspections – MAI3808*** *or* ***Enquiry Manager – DOC0150***.
The superseding of defects will automatically take place if two defects are found within the same chainage tolerance and XSP.
Superseded defects can be maintained using ***Match Duplicate Defects – MAI2739*** and ***Unmatch Duplicate Defects – MAI2760***.
Defect superseding can also be viewed in ***Defects – MAI3806***.
Note, the superseding of defects has been enhanced with the new ***Defect Superseding Rules – MAI4406*** modules in Version 4.3

DEFPRIDATE

Set repair date on change of priority.
Enter “Y” or “N”.
This determines whether or not the repair due date should be recalculated automatically when a defect priority is amended.
In ***Defects - MAI3806***, if this option is set to Y then the repair due date is recalculated.
This option may be amended on a live system.

DEFSUPRES

Supersede Repair Date Due.
Enter “Y” or “N”.
If set to “N” then when superseding, repair due date will be set as if the defect is new. If set to “Y” then the repair due date will be set to the superseded defects repair due date.

DEFSUPTYPE

Defect Superseding Type
Enter “1” or “2”.
This is used when defects are loaded using the Inspection Loader and has the following effect on superseding:

If set to “1” superseding occurs if a previous defect:

- Is on a different inspection.
- Has the same Inventory Code.
- Has the same Activity Code.
- Has the same Defect Code.
- Is located on the same Section.
- Has a Start Chain within the tolerance set in product option DEFMATPAR (defaulted to +/-5m if the option is not set).
- Has the same XSP.
- Has the same Roadstud Advisory/Mandatory value.
- Is not already superseded.
- Is not already COMPLETED.

If set to “2” superseding occurs the same as option 1 with the following additions:

- Is on a different Inspection (*with the same Initiation Type and Safety/Detailed Flag).*
- Has the same Priority Code.

MANINSACT
Safety Inspection Act. Code
Enter a valid activity code.
This is the default Safety Inspection Activity Code for Inspections by Group. Inspection Activities are set up using ***Activities - MAI1200****.*

NOTREFOUND
Not Refound.
Enter “OFF”, “ALL” or ”PRI”.
Any defects not found from a subsequent inspection will be marked as complete under the following circumstances:
OFF - Not refound code ignored
ALL - Not Refound code on and runs for all Defects of whatever priority
PRI - Not Refound code on and runs against all Defects EXCEPT Cat 1s.

REPCOMDATE
Entry of repair complete date;
Enter “Y” or “N”.
This option determines whether a defect can be completed manually from ***Inspections - MAI3808***,
If set to “Y” then users will be able to enter a repair completion date and the defect status will be automatically updated. If set to “N” then the repair completion date will be non-enterable. This is usually the case when ***Work Orders - MAI3800*** is in use.

REPSETPERD and REPSETPERL
Auto setting of perm. Date due.
Enter “Y” or “N”.
Enter “Y” to force the system to compute repair due dates for single permanent repairs to be based on the rules of the temporary repair.

RESTYPACC

Response type for accepted notifiable defects

This option must be set to a valid response code on defect notifications. These values are set up using ***Domains - HIG9120*** and updating the **RESPONSE_TYPES** option. It defines the code used to indicate that a defect has been accepted by an organisation in ***Responses to Notices - MAI3816*** this option is used to determine if a defect has been accepted by a different organisation

This option must not be changed on a live system.

USEDEFCHND and USEDEFCHNL

Use chainage on DoT and Local defects, respectively.

Enter “Y” or “N”.

This option determines whether chainage and XSP values are recorded on defects. In ***Load Inspections - MAI2200***, if this option is set to “Y” then chainages must exist on the load file and superseding of defects will take place. If set to “N” then chainages will be set to null and there will be no superseding.

When loading inspections using ***Inspections - MAI3808***, if this option is set to “Y” then chainages must be entered. If set to “N” then chainages are non-enterable.

This option must not be amended on live systems.

USEDEFCRDS

Use Defect Coordinates.

Enter “Y” or “N”.

If se to “Y” the system will store the defects x and y co-ordinates.

General Information

Most inspection data will be entered using the ***Maintenance Inspection Loader – MAI4400***. This handles input from a Data Capture Device (DCD). However, individual reports on inspections may be entered using either ***Inspections – MAI3808*** or ***Inspections by Road Group – MAI3899***.

There will be times when a defect is reported more than once at the same location. The system will supersede these defects automatically with the ***Defect Superseding Rules - MAI4406*** if loaded via the loader. In order to manually associate a reported defect with another as duplicate you should use either ***Match Duplicate Defects – MAI2730*** for defects that do not have an associated chainage or Product Option *USEDEFCHND* (for DoT defects or *USEDEFCHNL* (for local defects).

If having designated two reported defects as duplicated with each other this is later found to have been the wrong action, you may remove this association using ***Unmatch Duplicate Defects – MAI2760***.

When bulk loading inspections you will generally be loading data that has been collected with the aid of one of the following:

- Text based DCD
- Map based DCD
- Voice activated DCD

The ***Maintenance Inspection Loader – MAI4400*** transfers data collected on the DCD to the main *highways* database.
Automated processes can be used if required so all the inspector needs to do is place the inspection file into an FTP site defined by the system administrator

The data that is loaded onto the system is validated using the road network and the reference data that has been set up. (Refer to Maintenance Manager Administration Guide for further information.)

Inspection reference data can be written to a file suitable for download onto a DCD using:

- Download Network Data for DCD Inspections – MAI2224
- Download Static Reference Data for DCD Inspections – MAI2220
- Download Standard Item Data for DCD Inspections – MAI2222
- Download Inspections by Asset – MAI3863

Diagram of Process

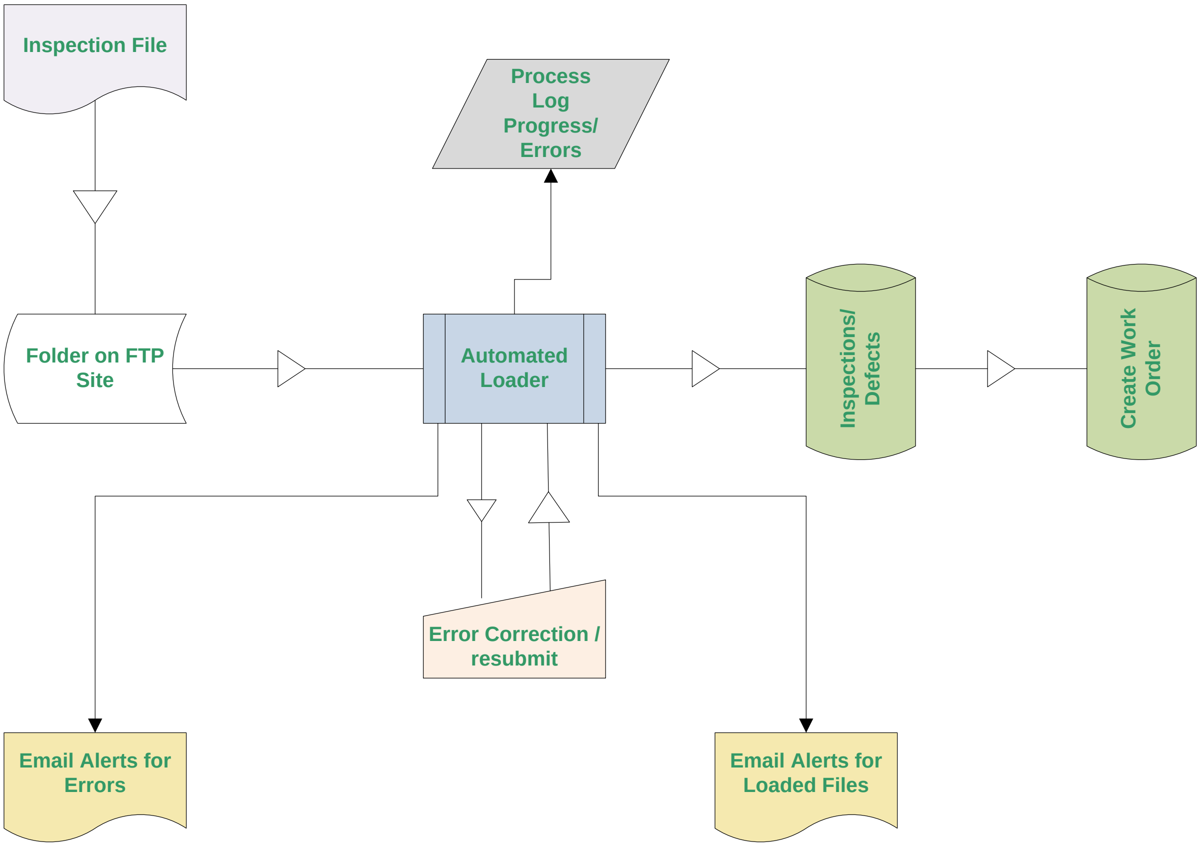

Inspection File
Process Log Progress/ Errors
Folder on FTP Site
Automated Loader
Inspections/ Defects
Create Work Order
Error Correction / resubmit
Email Alerts for Errors
Email Alerts for Loaded Files

Diagram of Automatic Inspection Load Process

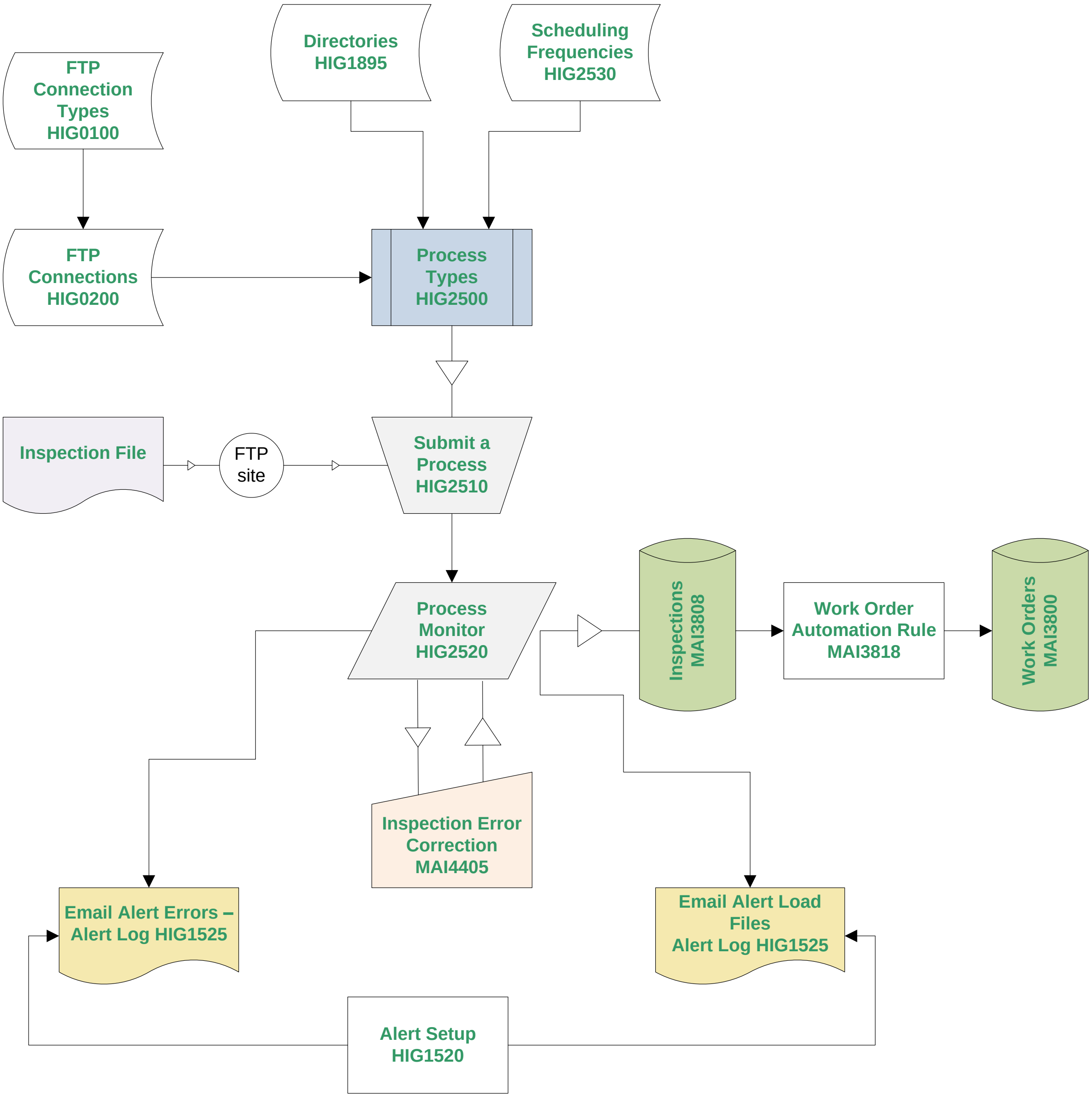
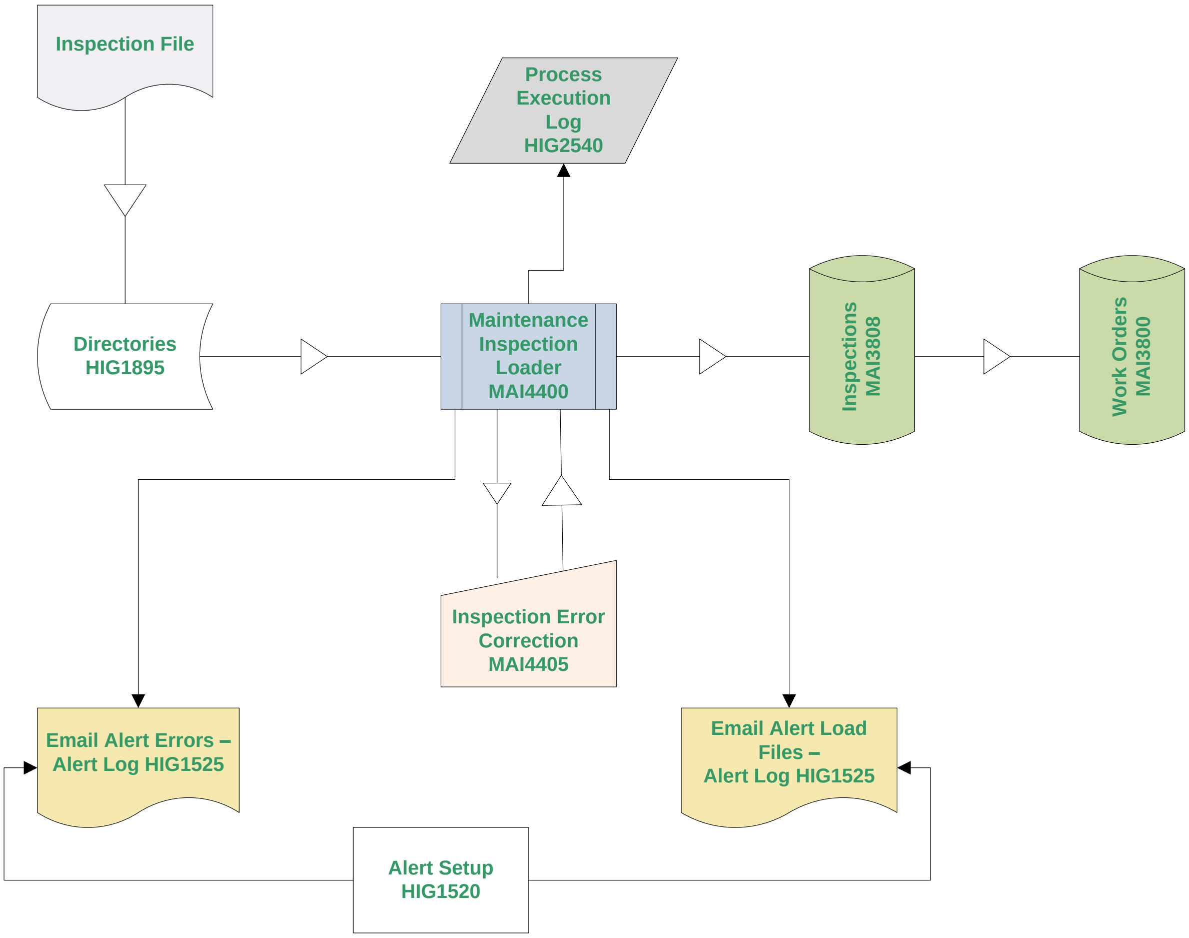

Directories HIG1895
Scheduling Frequencies HIG2530
FTP Connection Types HIG0100
FTP Connections HIG0200
Process Types HIG2500
Inspection File
FTP site
Submit a Process HIG2510
Process Monitor HIG2520
Inspections MAI3808
Work Order Automation Rule MAI3818
Work Orders MAI3800
Inspection Error Correction MAI4405
Email Alert Errors – Alert Log HIG1525
Email Alert Load Files Alert Log HIG1525
Alert Setup HIG1520

Diagram of Manual Inspection Load Process


Inspection File
Process Execution Log HIG2540
Directories HIG1895
Maintenance Inspection Loader MAI4400
Inspections MAI3808
Work Orders MAI3800
Inspection Error Correction MAI4405
Email Alert Errors – Alert Log HIG1525
Email Alert Load Files – Alert Log HIG1525
Alert Setup HIG1520

Associated Modules

For information on the following associated modules refer to Exor General System Admin Guide:

- FTP Connection Types – HIG0100
- FTP Connection – HIG0200
- Scheduling Frequencies – HIG2530
- Process types – HIG2500
- Submit a Process – HIG2510
- Process Monitor – HIG2520

Directories – HIG1895

Figure 1
Directories menu

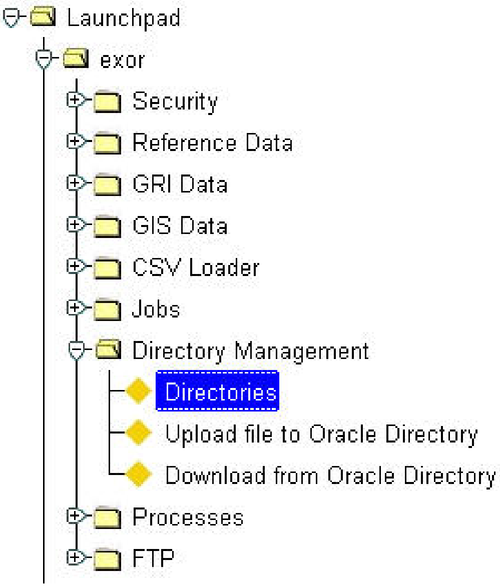
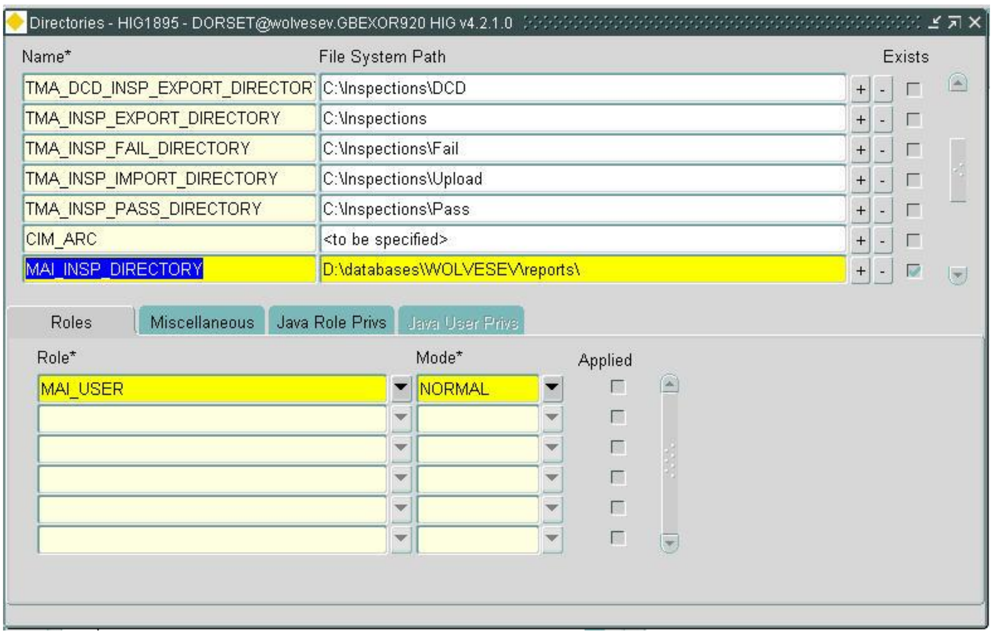

Launchpad
exor
Security
Reference Data
GRI Data
GIS Data
CSV Loader
Jobs
Directory Management
Directories
Upload file to Oracle Directory
Download from Oracle Directory
Processes
FTP

Figure 2
Directories


Directories - HIG1895 - DORSET@wolvesev.GBEXOR920 HIG v4.2.1.0

Name*	File System Path			Exists
TMA_DCD_INSP_EXPORT_DIRECTOR	C:\Inspections\DCD	+	-	☐
TMA_INSP_EXPORT_DIRECTORY	C:\Inspections	+	-	☐
TMA_INSP_FAIL_DIRECTORY	C:\Inspections\Fail	+	-	☐
TMA_INSP_IMPORT_DIRECTORY	C:\Inspections\Upload	+	-	☐
TMA_INSP_PASS_DIRECTORY	C:\Inspections\Pass	+	-	☐
CIM_ARC	<to be specified>	+	-	☐
MAI_INSP_DIRECTORY	D:\databases\WOLVESEV\reports\	+	-	☑

Roles
Miscellaneous
Java Role Privs
Java User Privs

Role*	Mode*	Applied
MAI_USER	NORMAL	☐
		☐
		☐
		☐
		☐
		☐

General Information

This form is used to enter a directory under the MAI_INSP_DIRECTORY option.

The directory specified is the directory on the server database that a selected file is uploaded to by the form when performing a manual inspection load. It is also the folder that the FTP polling process moves files to from the FTP site. The inspection loader then picks up the files from this directory and loads them into the database.

Name **Mandatory**

The name of available directories will be displayed.
For setting up the Inspection Loader the option MAI_INSP_DIRECTORY should be selected.

File System Path **Required**

Enter a valid directory that will be used in the inspection load process.

Exists **Display Only**

This option will be checked to show that the directory entered is a valid directory.

Roles Tab

Role **Mandatory** **List**

Enter the role that the user must be granted in order to write to the directory.

Mode **Mandatory** **List**

Enter the mode of access of the role defined that the user must be granted in order to write to the directory.

Maintenance Inspection Loader- MAI4400

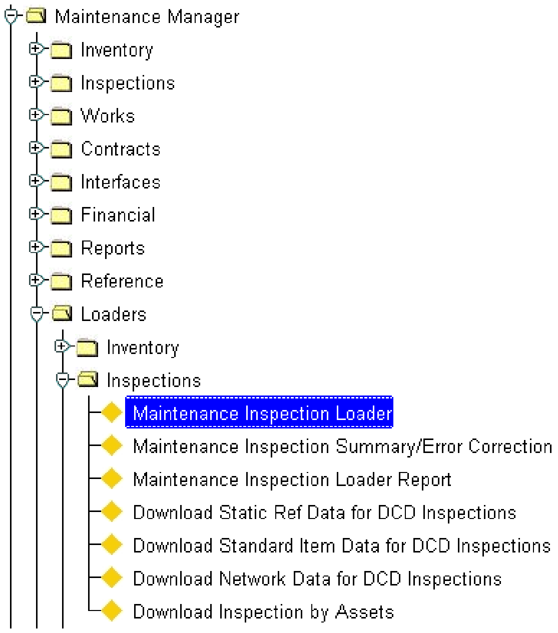

Maintenance Manager
Inventory
Inspections
Works
Contracts
Interfaces
Financial
Reports
Reference
Loaders
Inventory
Inspections
Maintenance Inspection Loader
Maintenance Inspection Summary/Error Correction
Maintenance Inspection Loader Report
Download Static Ref Data for DCD Inspections
Download Standard Item Data for DCD Inspections
Download Network Data for DCD Inspections
Download Inspection by Assets

Figure 3
Maintenance Inspection Loader
Menu option

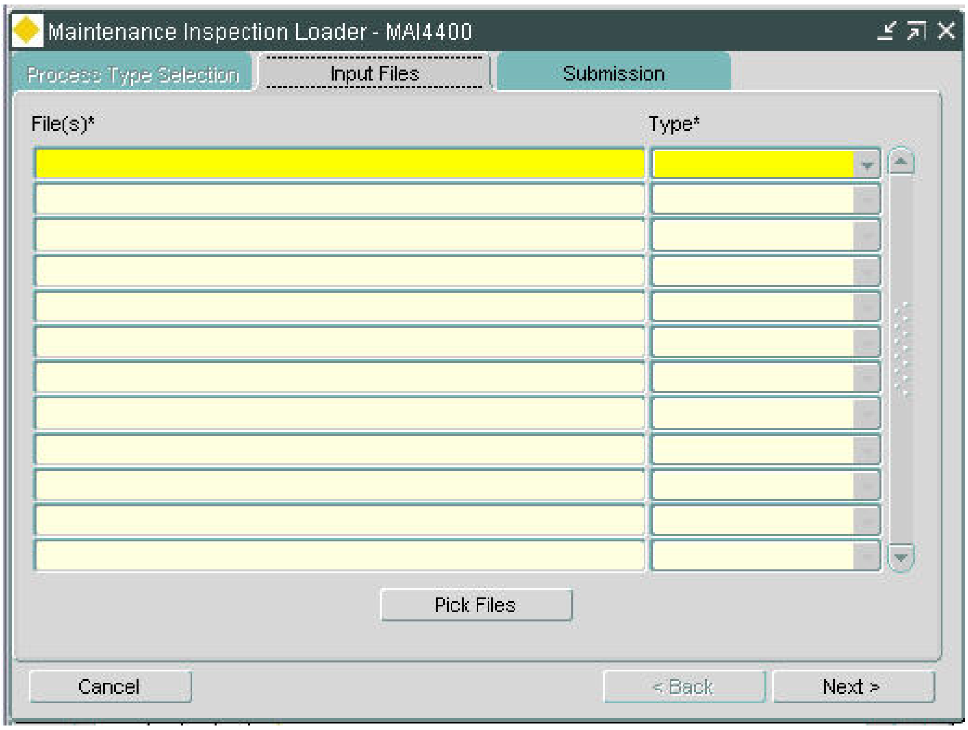

Maintenance Inspection Loader - MAI4400
Process Type Selection
Input Files
Submission
File(s)*
Type*
Pick Files
Cancel
< Back
Next >

Figure 4
Maintenance Inspection Loader

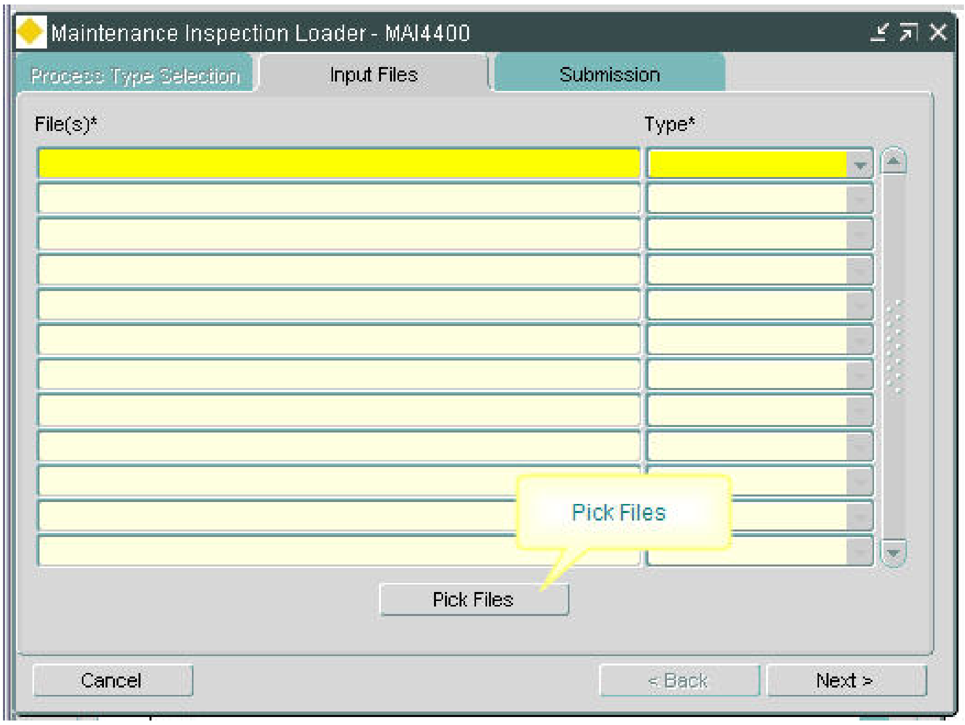
General Information

Inspection files can be loaded into maintenance manager in one of two ways. It can be done manually by picking the individual files for load or can be done automatically.

Note: For details of setting up an automatic process for inspection loading refer to the appropriate section of this document.

This form is used to manually load inspection files.

Figure 5
Input Files tab

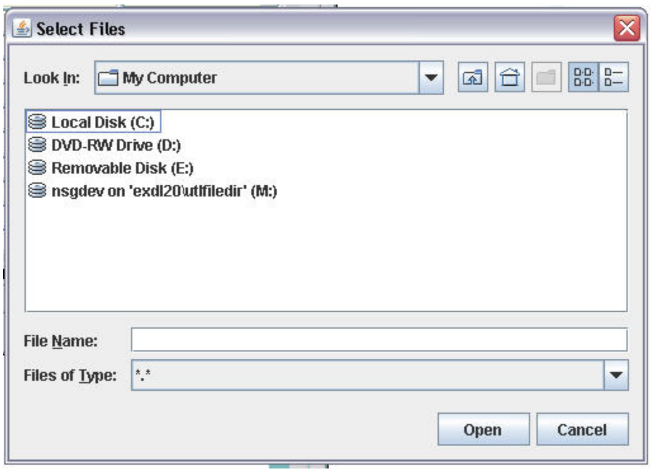

Maintenance Inspection Loader - MAI4400
Process Type Selection
Input Files
Submission
File(s)*
Type*
Pick Files
Pick Files
Cancel
< Back
Next >

Input Files

The Input Files tab is used to manually select a file to be processed through the inspection loader. The file to be loaded can be selected using the [**Pick Files**] button. This tab is enabled only if the selected process has input file types associated with it.

[**Pick Files**]
Press this button to bring up the 'Select Files' window where the inspection file to be loaded can be located and selected.

Figure 6
Select Files


Select Files
Look In:
My Computer
Local Disk (C:)
DVD-RW Drive (D:)
Removable Disk (E:)
nsgdev on 'exdl20\utlfiledir' (M:)
File Name:
Files of Type:
.
Open
Cancel

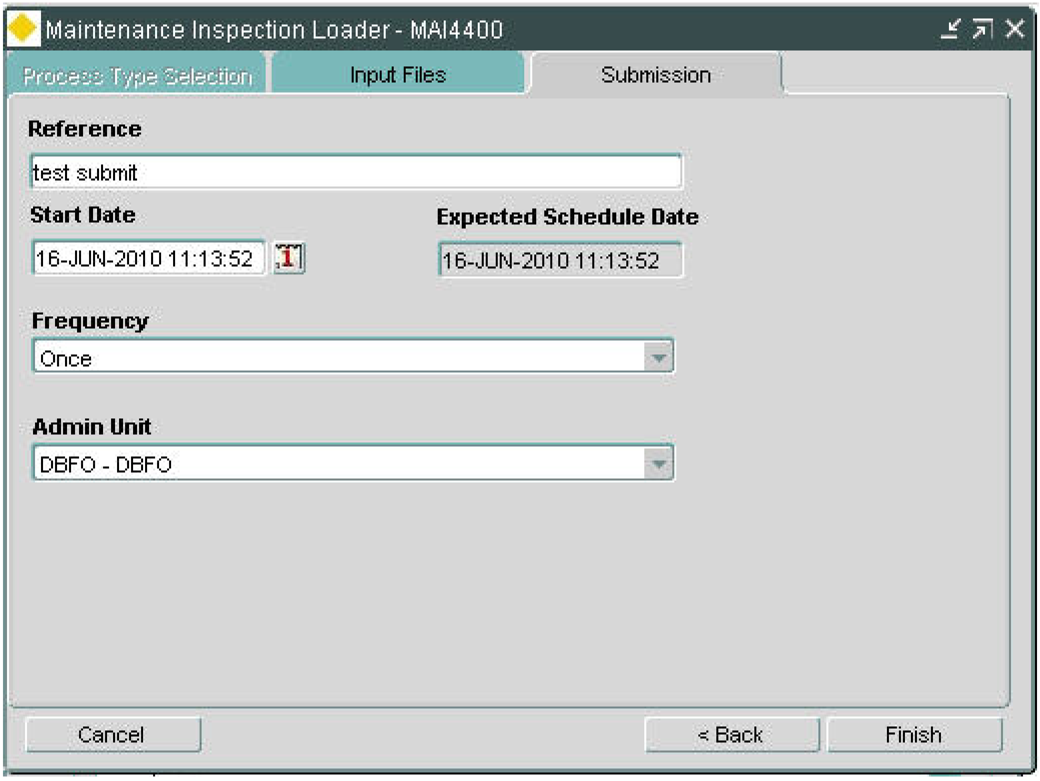
Once the file has been located select the [**Open**] button to place it into the Input Files tab.

Files **(Required)**

This field will show the filename of the inspection file selected to be loaded.

Type **(Required)** **List**

Select the type of file to be loaded. This will be ‘Inspection Files’.



Reference: test submit
Start Date: 16-JUN-2010 11:13:52
Expected Schedule Date: 16-JUN-2010 11:13:52
Frequency: Once
Admin Unit: DBFO - DBFO

Figure 7
Submission tab

Submission

Selecting the [**Next**] button on the Input Files tab will open the Submission tab.
The [**Cancel**] button will cancel the load process.
The [**<Back**] button will take the form back to the **Input Files** tab.

Reference **(Optional)**

Enter a reference name for the inspection load submission.

Start Date **(Required)**

Enter the date and time the file should be processed. This will default to the current date and time.

Expected Schedule Date **(Display Only)**

This will show the date and time as defined in the ‘Start Date’ field.

Frequency **(Required)** **List**

The frequency of the inspection load submission will default to ‘Once’ for manual loading. Scheduling frequencies will have been set up previously in form ***Scheduling Frequencies – HIG2530***.

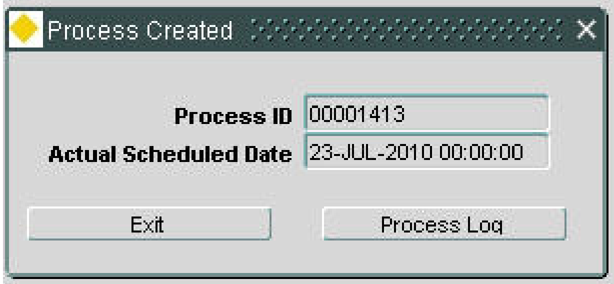
Admin Unit **(Optional)** **List**

Enter the admin unit to be used for processing the inspection load file if required.

Select the [**Finish**] button to start the inspection load process.

The **Process Created** window will appear.

Figure 8
Process Created



Process ID 00001413
Actual Scheduled Date 23-JUL-2010 00:00:00

Process Id **(Display Only)**

The process Id of the inspection load will be displayed.

Actual Scheduled Date **(Display Only)**

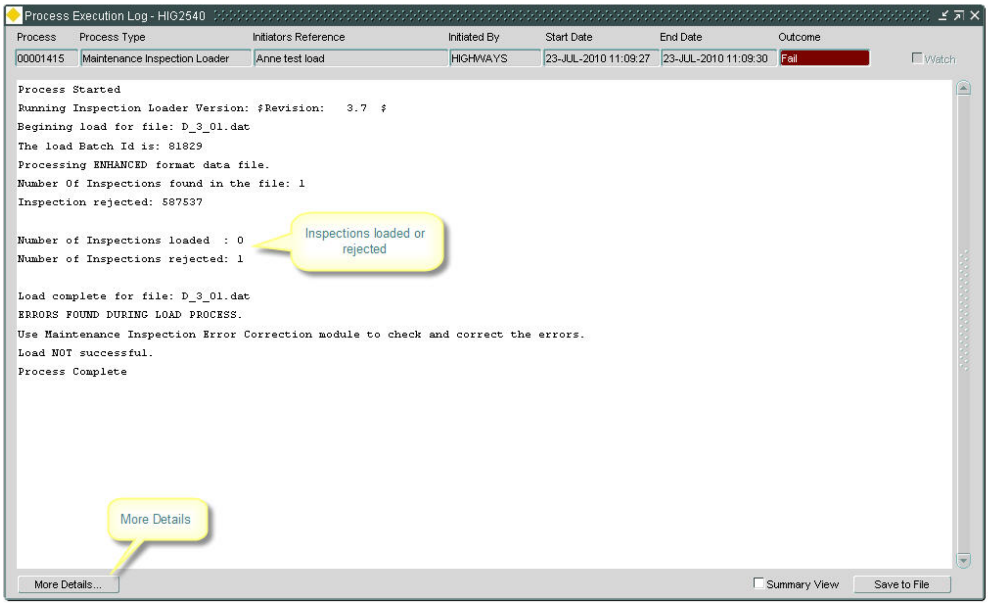
The actual date of the start of the process of the inspection load will be displayed.

[**Exit**] will exit the Maintain Inspection Loader form but the inspection load process will continue.

[**Process Log**] will open form ***Process Execution Log – HIG2540***.

Process Execution Log – HIG2540

Figure 9
Process Execution Log



Process Execution Log - HIG2540

Process	Process Type	Initiators Reference	Initiated By	Start Date	End Date	Outcome
00001415	Maintenance Inspection Loader	Anne test load	HIGHWAYS	23-JUL-2010 11:09:27	23-JUL-2010 11:09:30	Fail

```
Process Started
Running Inspection Loader Version: $Revision:   3.7  $
Begining load for file: D_3_01.dat
The load Batch Id is: 81829
Processing ENHANCED format data file.
Number Of Inspections found in the file: 1
Inspection rejected: 587537

Number of Inspections loaded  : 0
Number of Inspections rejected: 1

Load complete for file: D_3_01.dat
ERRORS FOUND DURING LOAD PROCESS.
Use Maintenance Inspection Error Correction module to check and correct the errors.
Load NOT successful.
Process Complete
```

Inspections loaded or rejected

More Details

General Information

The Process Execution Log show details of the inspection load including the outcome of either ‘Pass’ or ‘Fail’. This form is for information only.

The Process Execution Log can be called from form ***Process Monitor – HIG2520*** or by using the [**Process Log**] button in form ***Submit a Process – HIG2510*** after a process has been submitted.

Process (Display Only)

The process number of the inspection load will be displayed.

Process Type (Display Only)

The process type of the inspection load as defined in form ***Maintenance Inspection Loader – MAI4400*** will be displayed.

Initiators Reference (Display Only)

The reference of the inspection load as defined in form ***Maintenance Inspection Loader – MAI4400*** will be displayed.

Initiated By (Display Only)

The name of the user that initiated the inspection load will be displayed.

Start Date (Display Only)

The start date and time of the inspection load will be displayed.

End Date (Display Only)

The end date and time of the inspection load will be displayed.

Outcome (Display Only)

The outcome of the inspection load will be displayed.

The main part of the form will show a log of all processes that have been carried out for that process Id. Details will include:

- Batch Id
- Errors found during load process
- Number of inspections found
- Number of inspections loaded
- Number of inspections rejected
- Load successful/not successful

If the inspection load was not successful and subsequently corrected and re-submitted the results will be added to the log.

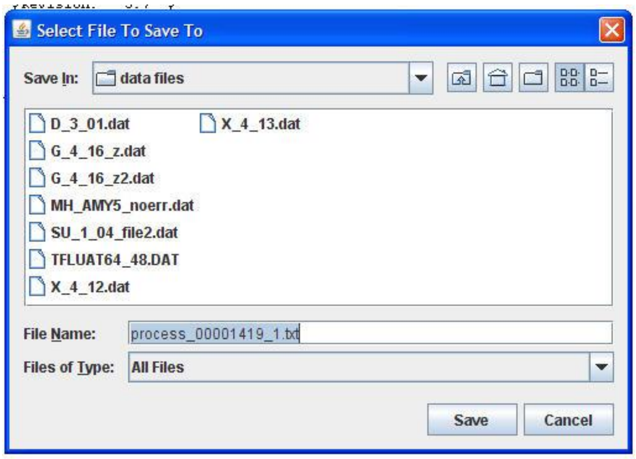
Watch (Checkbox)

During execution the process execution log will continually add logging details to the screen as the process is taking place. It will re-query the log table every 3 seconds. For large processes there will be masses of details being logged.
Unchecking this box will stop the details from continually being written to the screen.

Summary View (Checkbox)

Select this box to reduce the contents of the log to a summary view.

For executions that have been completed the [**Save to File**] button will allow the contents of the process execution log to be saved to a specified location.



Save In: data files

D_3_01.dat
G_4_16_z.dat
G_4_16_z2.dat
MH_AMY5_noerr.dat
SU_1_04_file2.dat
TFLUAT64_48.DAT
X_4_12.dat
X_4_13.dat

File Name: process_00001419_1.txt

Files of Type: All Files

Figure 10
Save to File

The [**More Details...**] button will open form ***Maintenance Inspection Summary/Error Correction – MAI4405*** (Figure 12) from where unsuccessful files can be corrected and re-submitted.

Maintenance Inspection Summary/ Error Correction – MAI4405

Figure 11
Inspection Summary/Error Correction Menu Option

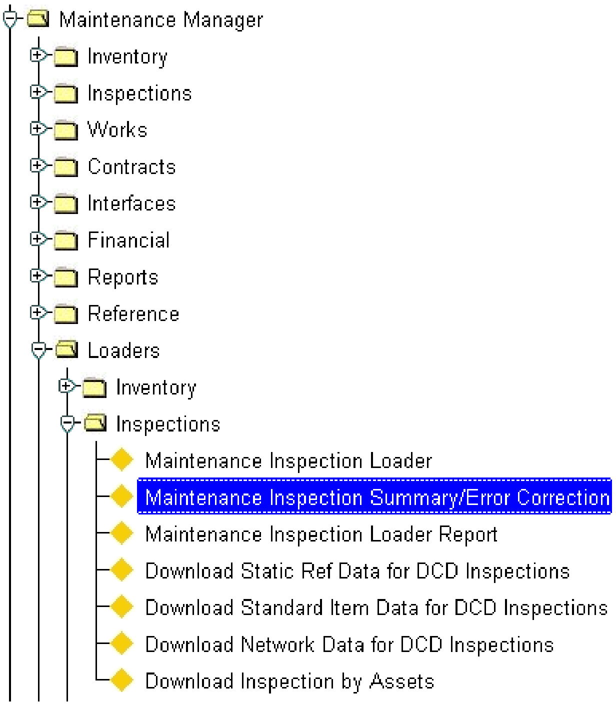
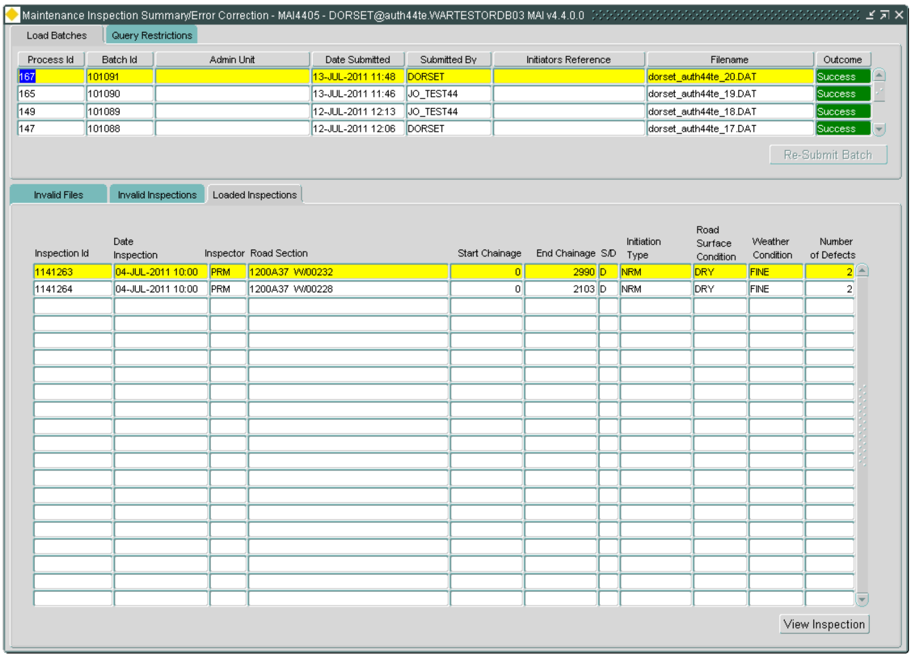

Maintenance Manager
Inventory
Inspections
Works
Contracts
Interfaces
Financial
Reports
Reference
Loaders
Inventory
Inspections
Maintenance Inspection Loader
Maintenance Inspection Summary/Error Correction
Maintenance Inspection Loader Report
Download Static Ref Data for DCD Inspections
Download Standard Item Data for DCD Inspections
Download Network Data for DCD Inspections
Download Inspection by Assets

Figure 12
Inspection Summary/ Error Correction


Load Batches
Query Restrictions
Re-Submit Batch
Invalid Files
Invalid Inspections
Loaded Inspections
View Inspection

Maintenance Inspection Summary/Error Correction - MAI4405 - DORSET@auth44te.WARTESTORDB03 MAI v4.4.0.0

Process Id	Batch Id	Admin Unit	Date Submitted	Submitted By	Initiators Reference	Filename	Outcome
167	101091		13-JUL-2011 11:48	DORSET		dorset_auth44te_20.DAT	Success
165	101090		13-JUL-2011 11:46	JO_TEST44		dorset_auth44te_19.DAT	Success
149	101089		12-JUL-2011 12:13	JO_TEST44		dorset_auth44te_18.DAT	Success
147	101088		12-JUL-2011 12:06	DORSET		dorset_auth44te_17.DAT	Success

Inspection Id	Date Inspection	Inspector	Road Section	Start Chainage	End Chainage	S/D	Initiation Type	Road Surface Condition	Weather Condition	Number of Defects
1141263	04-JUL-2011 10:00	PRM	1200A37 W/00232	0	2990	D	NRM	DRY	FINE	2
1141264	04-JUL-2011 10:00	PRM	1200A37 W/00228	0	2103	D	NRM	DRY	FINE	2

General Information

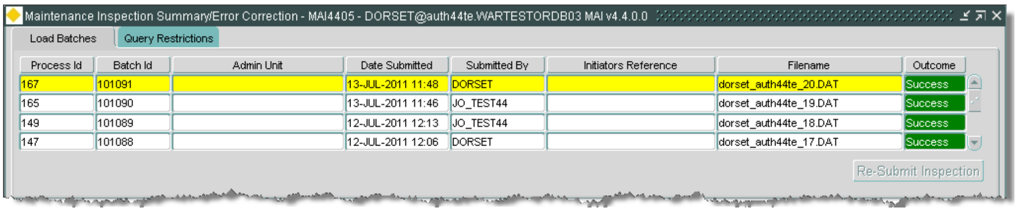
This form has two functions:

1. Act as a load summary enabling users to review those Maintenance Inspection loads that have been submitted to the database, using the Query Restrictions tab a user can refine the display and retrieve a specific set of inspections as required.

2. Review and correct the load file after a failed load. Once the changes have been completed the file will have to be re-submitted using the [Re-Submit Batch] button.

The form can be opened from the Maintenance Manager menu or alternatively directly from ***Process Monitor – HIG2520*** or ***Process Execution Log – HIG2540*** by selecting the [**More Details**] button.

Figure 13
Load Batches Tab


Maintenance Inspection Summary/Error Correction - MAI4405 - DORSET@auth44te.WARTESTORDB03 MAI v4.4.0.0
Load Batches
Query Restrictions
Re-Submit Inspection

Process Id	Batch Id	Admin Unit	Date Submitted	Submitted By	Initiators Reference	Filename	Outcome
167	101091		13-JUL-2011 11:48	DORSET		dorset_auth44te_20.DAT	Success
165	101090		13-JUL-2011 11:46	JO_TEST44		dorset_auth44te_19.DAT	Success
149	101089		12-JUL-2011 12:13	JO_TEST44		dorset_auth44te_18.DAT	Success
147	101088		12-JUL-2011 12:06	DORSET		dorset_auth44te_17.DAT	Success

If this form is called from either Process Monitor – HIG2520 or Process Execution Log – HIG2540 This tab will display the selected load process.

If this form is called from the Maintenance manager menu it will display a summary of the Maintenance Inspection loads. The user may use it to query back specific load batches based on the query criteria entered.
If the content of this tab has been restricted by criteria entered in the query restrictions tab, any further query criteria entered in this tab will apply to the results of the previous restrictions.

The following details will be displayed in one of the three tabs shown in the lower half of the form where the information may be viewed or updated as required:

- File Validation errors - Invalid Files tab (Figure 15)
- Data Validation errors - Invalid Inspections tab (Figure 17)
- Successfully loaded Inspections - Loaded Inspections (Figure 22)

Load Batches tab

This tab will display a summary of the Maintenance Inspection Loads. The summary information may be restricted based on query criteria being entered in one of more of the fields within the tab.
The information returned in this tab can be further restricted by entering criteria into the Query Restrictions tab (Figure 14).

The following fields will display the load batch information

Process Id **(Display Only)**

The internal process Id for the batch load will be displayed.

Batch Id **(Display Only)**

The inspection batch Id will be displayed.

Admin Unit **(Display Only)**

The admin unit will be displayed.

Date Submitted **(Display Only)**

The date the process was submitted will be displayed.

Submitted by **(Display Only)**

The name of the user who submitted the process will be displayed.

Initiators Reference **(Display Only)**

The reference quoted in the file submission in form ***Maintenance Inspection Loader - MAI4400*** will be displayed.

Filename **(Display Only)**

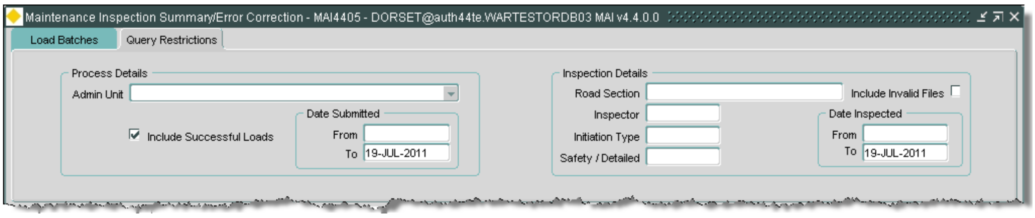
The filename for the inspection load will be displayed.

Outcome **(Display Only)**

The outcome will show either ‘Success’ or ‘Fail’ for completed inspection loads. For loads to be submitted at a later date the outcome will show ‘To Be Determined’.

If the outcome is set to ‘Fail’ the file or inspection is invalid and will contain errors, these can then be fixed using either the **Invalid Files** tab (Figure 15) or the **Invalid Inspections** tab (Figure 17) and then re-submitted using the [**Re-Submit Inspection**] button

Figure 14
Query Restrictions Tab



Maintenance Inspection Summary/Error Correction - MAI4405 - DORSET@auth44te.WARTESTORDB03 MAI v4.4.0.0
Load Batches
Query Restrictions
Process Details
Inspection Details

Admin Unit

☑ Include Successful Loads

Date Submitted
From
To 19-JUL-2011

Road Section
Include Invalid Files ☐
Inspector
Initiation Type
Safety / Detailed

Date Inspected
From
To 19-JUL-2011

Query Restrictions tab

The user may restrict the data that is retrieved into the Load Batches tab by entering criteria in one or more of the fields in this tab.

Once the criteria has been entered into this tab the user selects the Load Batches tab, the content of that tab will automatically be restricted based on the criteria entered.

Process Details

Admin Unit **(Optional)** **List**

Restrict the load batches by the admin unit that was used when processing the inspection load file.

Date Submitted From/To **(Optional)** **List**

Restrict the load batches retrieved to those submitted between the two dates selected. The ‘To’ date will default to Sysdate.

Include Successful Loads (Optional) Checkbox

Include successful loads in the data retrieved, default is to have this box checked. If not checked, the user will see nothing in the Loaded Inspections tab.

Inspection details

Include Invalid Files (Optional) Checkbox

If a file is in an invalid format and the system is unable to determine any information about the inspection, for example inspectors initials, no data will be returned. Selecting this checkbox will also include those files and will display appropriate error messages in the Invalid Files tab.

Road Section (Optional) List

Restrict the load batches to those containing the selected road section. The list will display the gazetteer.

Inspector (Optional) List

Restrict the load batches to those carried out by a selected inspector.

Initiation Type (Optional) List

Restrict the load batches to the specified initiation type.

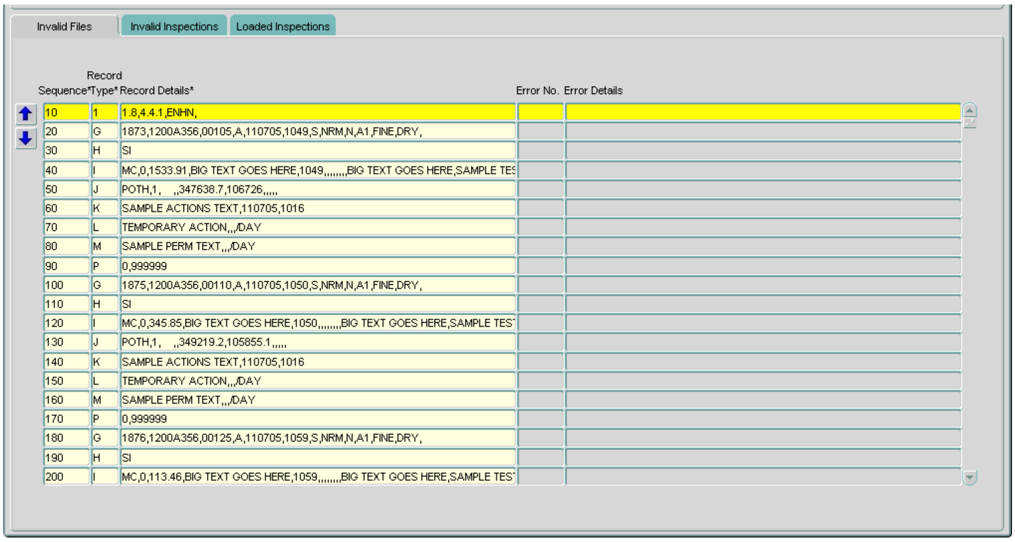
Safety/Detailed (Optional) List

Restrict the load batches to the specified inspection type.

Date Inspected From/To (Optional) List

Restrict the load batches retrieved to those inspected between the two dates selected. The ‘To’ date will default to Sysdate.

Figure 15
Invalid Files tab



Sequence*	Record Type*	Record Details*	Error No.	Error Details
10	1	1.8,4.4.1,ENHN,		
20	G	1873,1200A356,00105,A,110705,1049,S,NRM,N,A1,FINE,DRY,		
30	H	SI		
40	I	MC,0,1533.91,BIG TEXT GOES HERE,1049,,,,,,,,BIG TEXT GOES HERE,SAMPLE TES		
50	J	POTH,1, ,,347638.7,106726,,,,,		
60	K	SAMPLE ACTIONS TEXT,110705,1016		
70	L	TEMPORARY ACTION,,,/DAY		
80	M	SAMPLE PERM TEXT,,,/DAY		
90	P	0,999999		
100	G	1875,1200A356,00110,A,110705,1050,S,NRM,N,A1,FINE,DRY,		
110	H	SI		
120	I	MC,0,345.85,BIG TEXT GOES HERE,1050,,,,,,,,BIG TEXT GOES HERE,SAMPLE TES		
130	J	POTH,1, ,,349219.2,105855.1,,,,,		
140	K	SAMPLE ACTIONS TEXT,110705,1016		
150	L	TEMPORARY ACTION,,,/DAY		
160	M	SAMPLE PERM TEXT,,,/DAY		
170	P	0,999999		
180	G	1876,1200A356,00125,A,110705,1059,S,NRM,N,A1,FINE,DRY,		
190	H	SI		
200	I	MC,0,113.46,BIG TEXT GOES HERE,1059,,,,,,,,BIG TEXT GOES HERE,SAMPLE TES		

Invalid Files Tab

If the batch file submitted is invalid, details of the errors will be displayed in this tab.

As part of the load process the system performs basic validation checks on the file before the data is transferred. Some of the checks are:

- The basic format of the file is correct.
- Missing or misplaced 'X' records
- The first record of a file is a 'G' record.
- The total number of G, H, I, J, D, K, L, M, N, P, R and S records equal the totals in the X record which is the last record in the file.
- Mandatory fields are populated

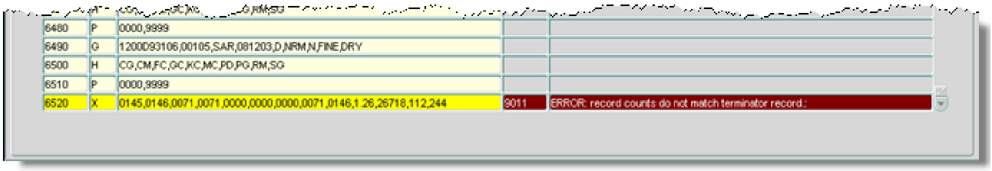
All data records for the selected batch file will be displayed. Data that has an error can be modified here prior to re-submitting the batch.

The errors that may be identified by the system when loading an inspection batch will need to be found and edited before re-submission, the following buttons are used to locate the lines in the file that contain the errors:

⬆ Previous error, this will move the cursor to the previous error in the file.

⬇ Next error, this will move the cursor to the next error in the file. An example is shown below:

Figure 16
Locate error



6480	P	0000,9999		
6490	G	1200D93106,00105,SAR,081203,D,NRM,N,FINE,DRY		
6500	H	CG,CM,FC,GC,KC,MC,PD,PG,RM,SG		
6510	P	0000,9999		
6520	X	0145,0146,0071,0071,0000,0000,0000,0071,0146,1.26,26718,112,244	9011	ERROR: record counts do not match terminator record.:

Sequence **(Display Only)**

The sequence number of the record within the file will be displayed.

Record Type **(Display Only)**

This field will display the record type. These types will have associated data in the adjacent field. Valid types are G, H, I, J, D, K, L, M, N, P, R, S and X.

Record Details **(Display Only)**

The details contained in this field will depend upon the record type in the previous field. Update the data in this field to fix any errors given; the error message will give a guide as to what is wrong with the data.

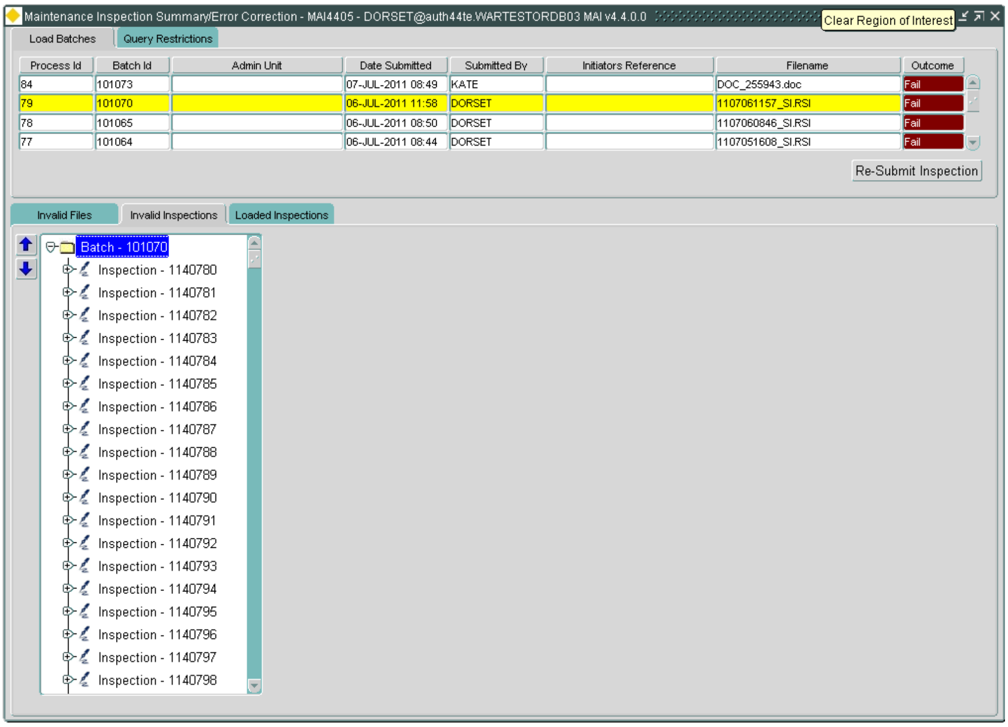
Error No. **(Display Only)**

If the data is incorrect the error number will be displayed.

Error Details **(Display Only)**

Details of the error in the file will be displayed.

Figure 17
Invalid Inspections



Maintenance Inspection Summary/Error Correction - MAI4405 - DORSET@auth44te.WARTESTORDB03 MAI v4.4.0.0

Process Id	Batch Id	Admin Unit	Date Submitted	Submitted By	Initiators Reference	Filename	Outcome
84	101073		07-JUL-2011 08:49	KATE		DOC_255943.doc	Fail
79	101070		06-JUL-2011 11:58	DORSET		1107061157_SI.RSI	Fail
78	101065		06-JUL-2011 08:50	DORSET		1107060846_SI.RSI	Fail
77	101064		06-JUL-2011 08:44	DORSET		1107051608_SI.RSI	Fail

Batch - 101070
Inspection - 1140780
Inspection - 1140781
Inspection - 1140782
Inspection - 1140783
Inspection - 1140784
Inspection - 1140785
Inspection - 1140786
Inspection - 1140787
Inspection - 1140788
Inspection - 1140789
Inspection - 1140790
Inspection - 1140791
Inspection - 1140792
Inspection - 1140793
Inspection - 1140794
Inspection - 1140795
Inspection - 1140796
Inspection - 1140797
Inspection - 1140798

Invalid Inspections Tab

Once the file has passed the validation checks further more stringent validation checks are performed on the actual data. Some of these checks are:

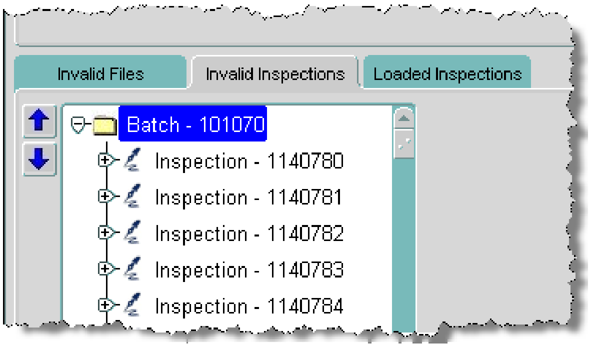
- The network and associated chainage match what is held on the system.
- The treatment code, defect code and activity areas identified in the file exist in the system.
- The inspectors have been entered onto the system.
- Survey type and direction are correct.
- Complaint date, source code and source type are valid.
- Notifiable and rechargeable organisations exist.

Any data that does not pass the validation checks will be shown under the ‘Invalid Inspections’ tab.

Data that has an error can be corrected here prior to re-submitting the batch.

The Batch id will be displayed with the associated inspections in the tree view as shown below:

Figure 18
Invalid Inspections



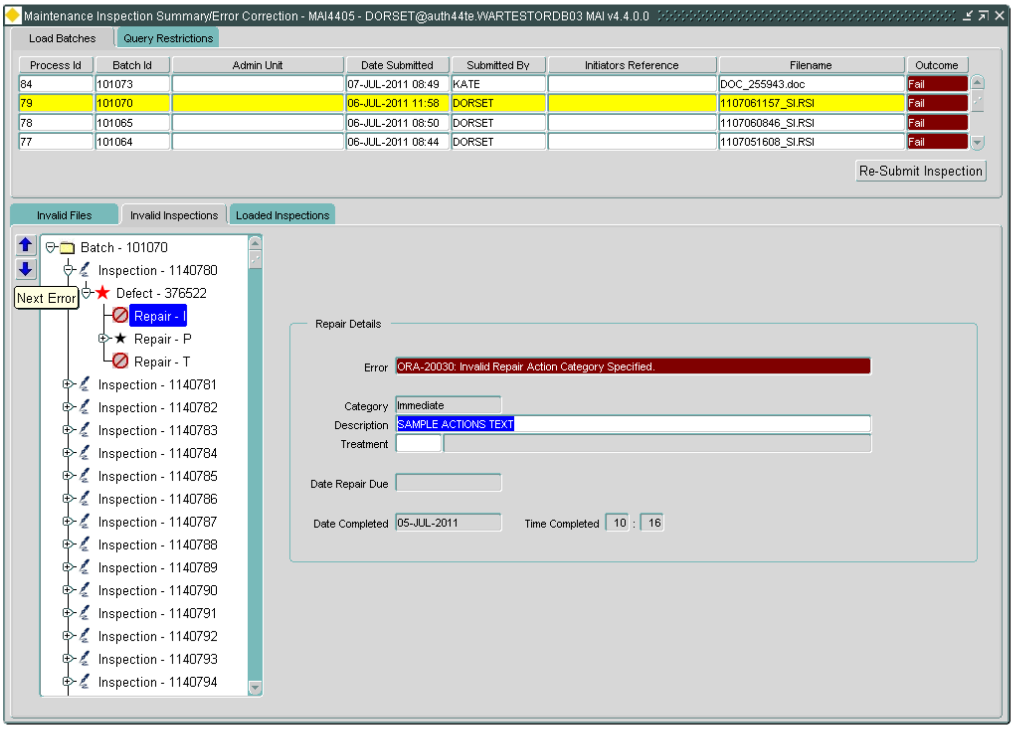
Batch - 101070
Inspection - 1140780
Inspection - 1140781
Inspection - 1140782
Inspection - 1140783
Inspection - 1140784

Clicking on the + sign against the inspection will expand the inspection details showing the defects in that inspection, this can be further expanded if required.
Selecting one of the following buttons will allow the user to navigate directly to the item within the inspection that has the error:

⬆ Previous error, this will move the cursor to the previous error in the file.

⬇ Next error, this will move the cursor to the next error in the file. An example is shown below:

Figure 19
Invalid Inspections



Maintenance Inspection Summary/Error Correction - MAI4405 - DORSET@auth44te.WARTESTORDB03 MAI v4.4.0.0

Process Id	Batch Id	Admin Unit	Date Submitted	Submitted By	Initiators Reference	Filename	Outcome
84	101073		07-JUL-2011 08:49	KATE		DOC_255943.doc	Fail
79	101070		06-JUL-2011 11:58	DORSET		1107061157_SI.RSI	Fail
78	101065		06-JUL-2011 08:50	DORSET		1107060846_SI.RSI	Fail
77	101064		06-JUL-2011 08:44	DORSET		1107051608_SI.RSI	Fail

- Batch - 101070
  - Inspection - 1140780
    - Defect - 376522
      - Repair - I
      - Repair - P
      - Repair - T
  - Inspection - 1140781
  - Inspection - 1140782
  - Inspection - 1140783
  - Inspection - 1140784
  - Inspection - 1140785
  - Inspection - 1140786
  - Inspection - 1140787
  - Inspection - 1140788
  - Inspection - 1140789
  - Inspection - 1140790
  - Inspection - 1140791
  - Inspection - 1140792
  - Inspection - 1140793
  - Inspection - 1140794

Repair Details

Error: ORA-20030: Invalid Repair Action Category Specified.
Category: Immediate
Description: SAMPLE ACTIONS TEXT
Treatment:
Date Repair Due:
Date Completed: 05-JUL-2011
Time Completed: 10 : 16

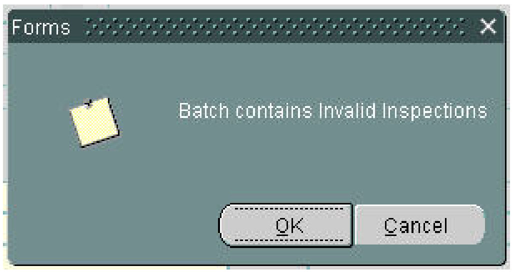
Invalid records will be identified with a red circle ⊘

The next record with the error will be highlighted and the details of the record and the associated error will be displayed in the right panel of the form.
The details in the right panel of the form will changed depending on the record that is selected in the inspection batch tree view.
The error can then be corrected and the file re-submitted using the [**Re-Submit Inspection**] button in the Load Batches tab.

Once the [**Re-Submit Batch**] button is pressed the inspection will be processed using the same Process Id.

If errors are found a message will appear showing that the batch contains either invalid files or inspections.

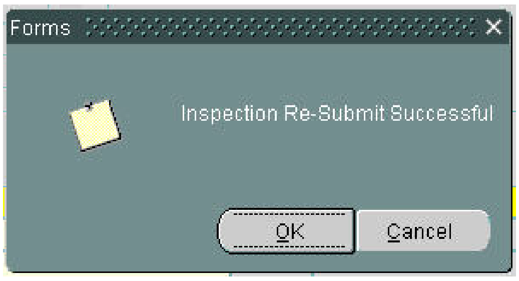
Figure 20
Error message


Forms
OK
Cancel

Batch contains Invalid Inspections

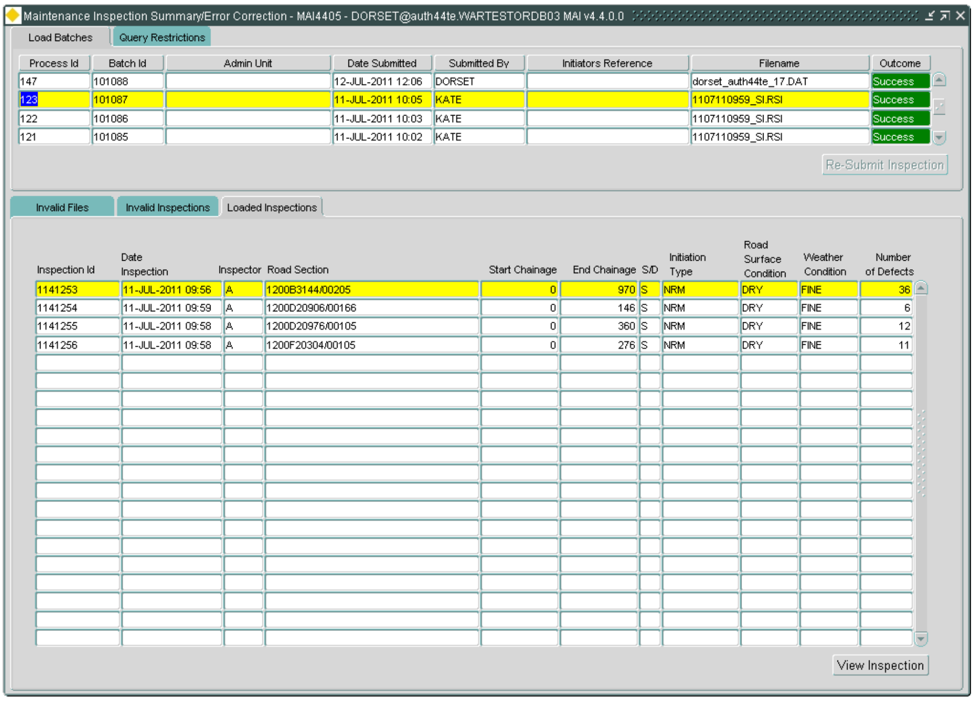
If on re-submit the inspection load is successful a message will appear as below.

Figure 21
Success message


Forms
OK
Cancel

Inspection Re-Submit Successful

Figure 22
Loaded Inspections


Maintenance Inspection Summary/Error Correction - MAI4405 - DORSET@auth44te.WARTESTORDB03 MAI v4.4.0.0
Load Batches
Query Restrictions
Re-Submit Inspection
Invalid Files
Invalid Inspections
Loaded Inspections
View Inspection

Process Id	Batch Id	Admin Unit	Date Submitted	Submitted By	Initiators Reference	Filename	Outcome
147	101088		12-JUL-2011 12:06	DORSET		dorset_auth44te_17.DAT	Success
123	101087		11-JUL-2011 10:05	KATE		1107110959_SI.RSI	Success
122	101086		11-JUL-2011 10:03	KATE		1107110959_SI.RSI	Success
121	101085		11-JUL-2011 10:02	KATE		1107110959_SI.RSI	Success

Inspection Id	Date Inspection	Inspector	Road Section	Start Chainage	End Chainage	S/D	Initiation Type	Road Surface Condition	Weather Condition	Number of Defects
1141253	11-JUL-2011 09:56	A	1200B3144/00205	0	970	S	NRM	DRY	FINE	36
1141254	11-JUL-2011 09:59	A	1200D20906/00166	0	146	S	NRM	DRY	FINE	6
1141255	11-JUL-2011 09:58	A	1200D20976/00105	0	360	S	NRM	DRY	FINE	12
1141256	11-JUL-2011 09:58	A	1200F20304/00105	0	276	S	NRM	DRY	FINE	11

Loaded Inspections Tab

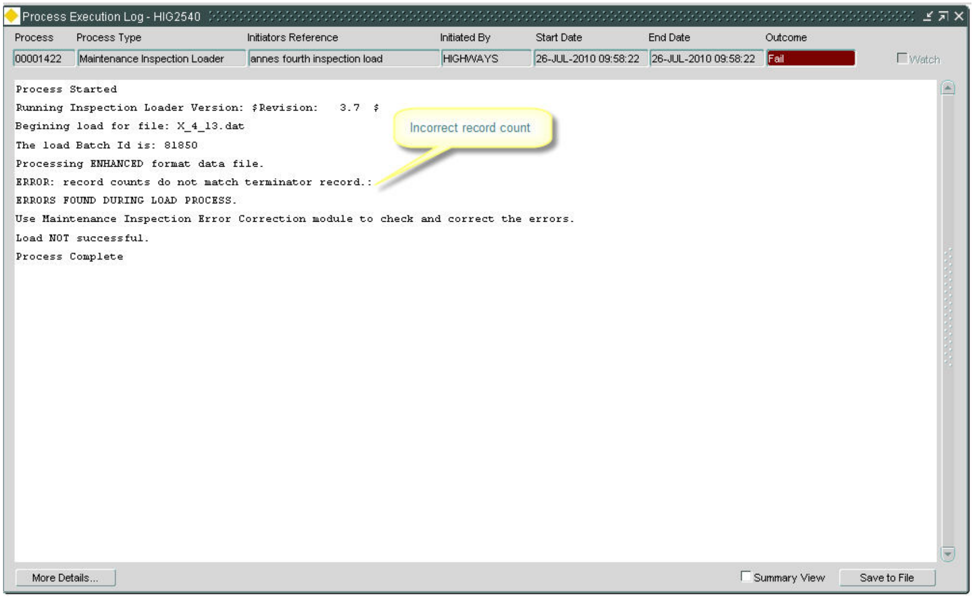
Once the Inspection has been successfully loaded the user may query the inspection in the Load batches tab and view a summary of the inspections loaded in a selected batch using this tab.

To view more detail of the selected inspection, highlight the inspection record and select the [View Inspection] button, this will display the inspections using ***Inspections – MAI3808***.

Examples of Error Correction

Invalid File - record count

The process execution log will show:
ERROR: record counts do not match terminator record.



Process	Process Type	Initiators Reference	Initiated By	Start Date	End Date	Outcome
00001422	Maintenance Inspection Loader	annes fourth inspection load	HIGHWAYS	26-JUL-2010 09:58:22	26-JUL-2010 09:58:22	Fail

```
Process Started
Running Inspection Loader Version: $Revision:   3.7  $
Begining load for file: X_4_13.dat
The load Batch Id is: 81850
Processing ENHANCED format data file.
ERROR: record counts do not match terminator record.:
ERRORS FOUND DURING LOAD PROCESS.
Use Maintenance Inspection Error Correction module to check and correct the errors.
Load NOT successful.
Process Complete
```

Incorrect record count

Figure 23
Process Execution Log

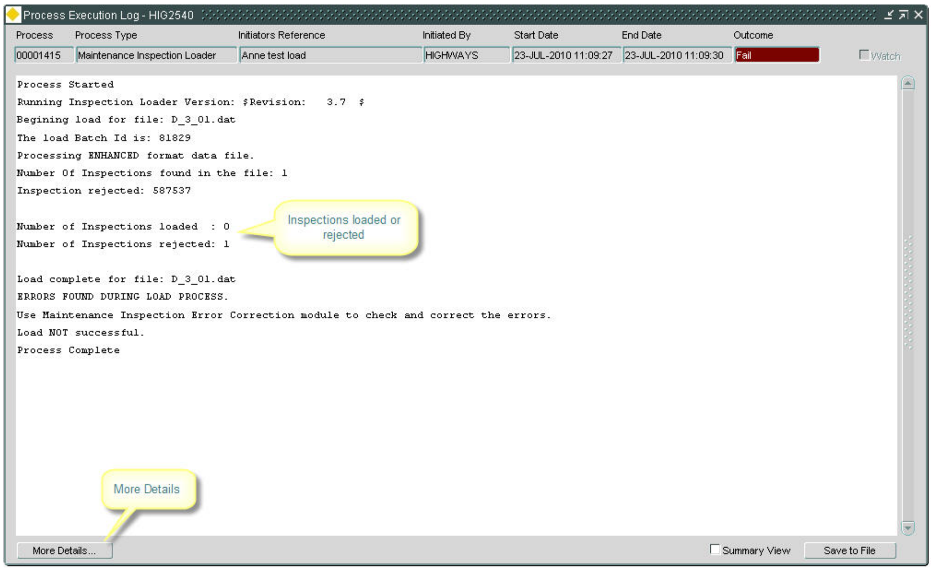
This error means that the ‘X’ record count is incorrect.

Select the [**More Details…**] button which will open the ***Maintenance Inspection Summary/Error Correction*** form with the data in the **Invalid Files** tab where the error can be located using the Next Error button ⬇ and then corrected.
The X record should be amended to show the correct count and then saved.
The file can now be re-submitted using the [**Re-Submit Inspection**] button.

Invalid Inspection:

The process execution log will show, for example Inspection rejected: 587537
Number of Inspections loaded: 0
Number of Inspections rejected: 1

Figure 24
Process Execution Log



Process Execution Log - HIG2540

Process	Process Type	Initiators Reference	Initiated By	Start Date	End Date	Outcome
00001415	Maintenance Inspection Loader	Anne test load	HIGHWAYS	23-JUL-2010 11:09:27	23-JUL-2010 11:09:30	Fail

☐ Watch

```
Process Started
Running Inspection Loader Version: $Revision:   3.7  $
Begining load for file: D_3_01.dat
The load Batch Id is: 81829
Processing ENHANCED format data file.
Number Of Inspections found in the file: 1
Inspection rejected: 587537

Number of Inspections loaded  : 0
Number of Inspections rejected: 1

Load complete for file: D_3_01.dat
ERRORS FOUND DURING LOAD PROCESS.
Use Maintenance Inspection Error Correction module to check and correct the errors.
Load NOT successful.
Process Complete
```

Inspections loaded or rejected

More Details

This error means that the there is an error an inspection contained within the batch.

Select the [**More Details…**] button which will open at the ***Maintenance Inspection Summary/Error Correction*** form with the data in the **Invalid Inspections** tab where the error can be located using the Next Error button ⬇ and then corrected.

Click on the + sign against the inspection and then against the defect to show further details of defect, repair and boq items as required.

Invalid records will be identified with a red circle 🚫

Highlight the invalid record to open up details of the error on the right hand side of the form.

An invalid repair type can be removed from the file with the [**Delete Record**] button on the toolbar. ✖ If a record is deleted from the invalid inspections tab the load batch will need to be re-queried before the changes can be viewed in the Invalid Inspections tab.

Note: if the repair has an associated BOQ this record must first be deleted before the repair can be removed.

The record should then be saved and the file re-submitted using the [**Re-Submit Inspection**] button.
If further errors are encountered these should be corrected and the batch re-submitted until no errors remain.

Load Inspection Data – File Format

The following describes the data file format for loading inspection data into Maintenance Manager from *exor's* data collection software (datacapture and MapCapture).

Introduction

The following fields will describe each record type.

Field

This column gives a descriptive name of the field.

DataType

This column may have the following values, which describes the allowable characters for the field.

Value	Description
Integer	Integer Number
Number	Number, decimal places
Alphanumeric	All Characters
Decimal Number	Number with decimal places

Max Size

This is the maximum size for this column.

M (mandatory)

If ticked this column is mandatory.

Description

This column will contain some meaningful text relating to the Field.

Record Types

All records must be enclosed by double quotes.
All Alphanumeric fields, with the exception of the Record Type, may also be optionally enclosed by double quotes (ASCII 34).
Items within the string are separated by commas.

‘1’ - Data File Information

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “1”
Data Version	Alphanumeric	10	√	Version Number “1.8”
Software Version	Alphanumeric	10		Software Version Number
File Type	Alphanumeric	4	√	May contain one of the following values: “RMMS” – Safety or Detailed Inspection “ENHN” – Defect Survey (with optional BOQS) “ASST” – Asset based survey
Description	Alphanumeric	240		Any useful description for the file

Example:
"1,1.8,4.1.122,ENHN,Inspection File 1"

‘G’ – Inspection Details (Beginning of Inspection Block)

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “G”
rse_he_id (ne_id)	Integer	9	√	Exor internal Id of the section
Link	Alphanumeric	10	√	Agency/Link Code
Section	Alphanumeric	3	√	Section number
First Inspector	Alphanumeric	3	√	The Inspectors initials (as stored within the exor database)
Inspection Date	Alphanumeric	YYMMDD	√	Date of inspection e.g.100129
Inspection Time	Alphanumeric	HHMM	√	Time of the inspection e.g. 1503
Safety/Detailed	Alphanumeric	1	√	D for Detailed or S for Safety
Initiation Type	Alphanumeric	3	√	Any valid initiation type from the pedif file
Direction	Alphanumeric	1	√	Inspection direction in relation to the section start node. ‘Y’ indicates reverse direction ‘N’ indicates forward direction
Second Inspector	Alphanumeric	3		The second Inspectors initials (as stored within the exor database.
Weather condition	Alphanumeric	4		Any valid weather condition from the pedif file e.g. FINE, FOG, RAIN, etc
Road Surface	Alphanumeric	4		Any valid weather condition from the pedif file e.g. DRY, WET, SNOW etc
Section Description	Alphanumeric	240		Section description

Example:
"G,,2300B62842,00010,LC,20040930,1408,D,NRM,N,,FINE,DRY,.Section Description."

‘H’ – Inspection Activities

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “H”
Activity 1	Alphanumeric	2	√	Any valid Activity Code from the pedif file
Activity 2	Alphanumeric	2		Any valid Activity Code from the pedif file
Activity 3	Alphanumeric	2		Any valid Activity Code from the pedif file

Any number of activity mnemonics allowed in this record.

Example:-
"H,CW,FW,LP,MC,MH,SG"

‘I’ – Defect Location Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “I”
Defect Activity	Alphanumeric	2	√	Defect activity code
XSP	Alphanumeric	1		Cross sectional position of the defect
Chainage	Integer	6		Chainage of the defect
Location	Alphanumeric	40		Textual description of the defects location
Time	Alphanumeric	HHMM	√	Time the defect was observed e.g. 1503
Identity Code	Alphanumeric	8		Identity code of the asset (sign, traffic signal, etc)
Diagram Number	Alphanumeric	7		Diagram number of the asset (sign etc)
Asset Type	Alphanumeric	2		Asset type of the associated asset
Inventory Change Indicator	Alphanumeric	1		Any valid value from the Asset Modification domain (included in the pedif file)
Marshall Sub-Head Code	Alphanumeric	3		Standard Item Sub Section (SISS) code
Notifiable Organisation	Alphanumeric	10		Notifiable organisation code
Rechargeable	Alphanumeric	10		Rechargeable organisation code
Special Instructions	Alphanumeric	254		Text field for any special instructions relating to the defect
Description	Alphanumeric	240		Defect description text field

Example:
"I,CW,5,415,EAST END OF ACCESS TO EDISCUM GARTH,1411,,,,,,,,Special Instruction, Large Pot Hole"

‘J’ – Additional Defect Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “J”
Defect Type	Alphanumeric	4	√	Defect type code
Priority	Alphanumeric	4	√	Defect priority
Defect Category	Alphanumeric	4		Defect response category
Asset Id	Integer	10		External Id of the associated asset
Easting	Decimal Number	38 (incl decimal point)		X co ordinate of the defect
Northing	Decimal Number	38 (incl decimal point)		Y co ordinate of the defect
Attribute 1	Alphanumeric (dependent on the attribute	Dependent on the column used by the attribute		Value for attribute 1 as defined against the defect type
Attribute 2	Alphanumeric (dependent on the attribute	Dependent on the column used by the attribute		Value for attribute 2 as defined against the defect type
Attribute 3	Alphanumeric (dependent on the attribute	Dependent on the column used by the attribute		Value for attribute 3 as defined against the defect type
Attribute 4	Alphanumeric (dependent on the attribute	Dependent on the column used by the attribute		Value for attribute 4 as defined against the defect type
Road Stud Indicator	Alphanumeric	1		Road stud indicator ‘M’ – indicates Mandatory ‘A’ – indicates Advisory This field should be NULL if the defect is not associated with a road stud

Example:
"J,CPOT,1,,,12345,54321,28,570,,,"

‘D’ – Defect Document Attachments

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “D”
Type	Alphanumeric	4		Document type code (if not supplied the value of Product Option DEFDOCTYPE will be used
Title	Alphanumeric	60		Document title
Description	Alphanumeric	2000		Document description
Category	Alphanumeric	8		Document category code
Location	Alphanumeric	30		Document manager location name (if not supplied the value of Product Option DEFDOCLOCN will be used
Filename	Alphanumeric	254	√	Name of the file to be attached

Zero or more D records can be specified for each Defect specified in the file.
In order to associate documents with a given Defect the D records must be positioned directly after the relevant J record in the file.

Example:
"D,PHOT,Before Photo,.Pot Hole, before repair.,,DEFECT_PHOTOS,def1001291501.jpg"

‘K’ – Immediate Action Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “K”
Repair Description	Alphanumeric	240		Description of the Immediate action taken or recommended
Date Repaired	Alphanumeric	YYMMDD	√	Date the Immediate action was taken
Time Repaired	Alphanumeric	HHMM	√	Time the Immediate action was taken e.g. 1504 (24 hour format)

Example:
"K,MARKED UP,20040930,1411"

‘L’ – Temporary Action Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “L”
Repair Description	Alphanumeric	240		Description of the Temporary action taken or recommended
Date Repaired	Alphanumeric	YYMMDD		Date the action was taken. NULL if the action was not carried out at the time of the inspection
Time Repaired	Alphanumeric	HHMM		Time the Immediate action was taken e.g. 1504 (24 hour format) NULL if the action was not carried out at the time of the inspection.
Treatment	Alphanumeric	4		Treatment code

Example:
"L,FILL POTHOLE,20041001,1600,PATG"

‘M’ – Permanent Category 1 Action Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “M”
Repair Description	Alphanumeric	240		Description of the permanent action taken or recommended
Date Repaired	Alphanumeric	YYMMDD		Date the action was taken. NULL if the action was not carried out at the time of the inspection
Time Repaired	Alphanumeric	HHMM		Time the Immediate action was taken e.g. 1504 (24 hour format) NULL if the action was not carried out at the time of the inspection.
Treatment	Alphanumeric	4		Treatment code

Example:
"M,PATCH AREA,,,FTPR"

‘N’ – Permanent Category 2 Action Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “N”
Repair Description	Alphanumeric	240		Description of the permanent action
Treatment	Alphanumeric	4		Treatment code
Sub Category	Integer			Not used in EID format files

Example:
"N,POTHOLE FORMING LANE 2,/PRI,0001"

‘Q’ – BOQ Details

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “Q”
Item Code	Alphanumeric	10	√	Item code
Dimension 1	Number	10,2 (99999999,99)	√	First dimension of the item If the value supplied has a precision greater than the specified maximum of 2 decimal places it will be rounded
Dimension 2	Number	10,2 (99999999,99)		Second dimension of the item If the value supplied has a precision greater than the specified maximum of 2 decimal places it will be rounded
Dimension 2	Number	10,2 (99999999,99)		Third dimension of the item If the value supplied has a precision greater than the specified maximum of 2 decimal places it will be rounded
Quantity	Number	10,2 (99999999,99)	√	Total quantity i.e. the product of the specified dimensions

Zero or more Q records (BOQs) can be specified for each Temporary or Permanent Action specified in the file (BOQs are not allowed on Immediate Actions).
In order to associate BOQs with a given Action the Q records must be positioned directly after the relevant Action record in the file.
Example:
"K,MARKED UP,20040930,1411"
"L,FILL POTHOLE,20041001,1600,PATG"
"Q,1011106,0.92,,,0.92"
"Q,1008101,0.8,0.8,,0.6400000000000001"
"M,PATCH AREA,,,FTPR"
"Q,1008102,2.3,0.6,,1.38"

‘R’ – Comments

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “R”
Comment Class	Alphanumeric	8	√	Document category
Comment Text	Alphanumeric	240	√	The test to be recorded as the comment

Example:
"R,GENERAL,BACK STREET NOT INSPECTED"

‘P’ – End of Inspection Block

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “P”
Start Chainage	Integer	6	√	Chainage at the start of the inspection
End Chainage	Integer	6	√	Chainage at the end of the inspection. The value 999999 will be interpreted as the end of the section being inspected

For an RMMS safety survey the Start Chainage must be 0 and the End Chainage must be 999999

Example:
"P,0,999999"

‘X’ – End of File

Field	Datatype	Max Size	M	Description
Record Type	Alphanumeric	1	√	Must contain “X”
G	Integer	38	√	Count of ‘G’ records in the file
H	Integer	38	√	Count of ‘H’ records in the file
I	Integer	38	√	Count of ‘I’ records in the file
J	Integer	38	√	Count of ‘J’ records in the file
D	Integer	38	√	Count of ‘D’ records in the file
K	Integer	38	√	Count of ‘K’ records in the file
L	Integer	38	√	Count of ‘L’ records in the file
M	Integer	38	√	Count of ‘M’ records in the file
N	Integer	38	√	Count of ‘N’ records in the file
P	Integer	38	√	Count of ‘P’ records in the file
Q	Integer	38	√	Count of ‘Q’ records in the file
R	Integer	38	√	Count of ‘R’ records in the file
S	Integer	38	√	Count of ‘S’ records in the file

Example:
"X,4,4,15,15,0,0,0,0,15,4,0,0,0"
The values can be zero padded e.g.
"X,0041,0041,0038,0038,0000,0000,0038,0000,0041,0000,0009,0000"