1 Introduction

THE COMPANY manages an overall assurance process which includes a cumulative risk profile containing the following characteristics;

- Increased awareness of key issues
- Better conclusions to decision making on AI issues
- Immediate action and intervention
- Live documents
- Visible and easy to understand
- Platform ownership
- Reviewed by HSE

The Barrier model is a visual communication tool that identifies the risk profile for any given asset installation in a region focusing on 5 elements that contribute to cumulative risk assessment being reliability failure, operational risk assessment, process safety issues, safety critical risk assessment and human factors (or soft measures).

To contribute in safeguarding asset integrity controls through the Asset Life Cycle:

- Sound risk assessment;
- Formulation of acceptable and adequate mitigation and control measures;
- Formal review and approval process;
- Communication to all pertinent parties;
- Implementation of the approved mitigation measures.
- Assessment of cumulative risk profile

In this model each barrier is defined as a functional grouping of safeguards and controls selected to prevent, or limit the effects of a Major Accident or Environmental Event. Each barrier typically includes a mix of: plant (equipment), processes (documented and 'custom and practice') and people (personal skills and their application). The selected combination of these ensures the barrier should be suitable, sufficient and available to deliver its expected risk reduction. The barrier is the high level function group (e.g. Fire Suppression) and can be divided into separate Critical Systems (e.g. Deluge System), and further sub-divided into the Critical Elements (which would generally be the tagged items representing the lowest level to which the Barrier can be sensibly sub-divided)

The intention of the interactive display is to present visual cues for audiences in both operations and maintenance regarding asset integrity of a region for a specific period of time, broken down by site and then physical location (known as area). This information is sourced daily from the various corporate

systems. The user can interact with the barrier model and drill into and enquire on the various components that make up the reading which is displayed in the traditional traffic light colours of Red, Amber and Green, where green is healthy and red is impaired. (See glossary for definition)

The foundation of the barrier model is the corporate information held in the permit to work systems and maintenance management systems. This data, coupled with information maintained directly in the barrier model provides the displays. The actions and updates occurring in each enterprise system influence the display seen on the barrier model.

This manual therefore details the operational methods required to manage the integration of PS code allocation as well as other maintenance activities and the creation and approval of an integrated risk record inside the model.

The barrier model data analytic supports the merger of external system information and information from the barrier model risk application. The Barrier Model Risk Application supports the following features

- Security access is assigned to a qualified THE COMPANY user. Once assigned the sites and regions that user has permission to view or update can be assigned.

- Role level security supports which activities the user can perform and locks down the workflow to certain roles.

- PS code maintenance is the function mainly used by users who have integration enabled into a PTW system and GWMS system. This allows the user to nominate a barrier, PS Code/SCE element and assign a transaction type such as Process Safety, Operational Risk, Human Factors or Deferment. For work order integration, users have the ability to assign to a PM reference (job plan) meaning every time a work order comes into the model associated to a referenced PM, it will be automatically assigned a SCE reference.

- Manual Override entry window where users can post an override record.

- Action Tracking creation and updates.

- Document References which is used to assign a document to the barrier model so it appears under the Reports Tab / Document Reference window.

- PS Code description and barrier model mapping window allows users to update and move PS Codes/ SCE elements from one barrier to the other or rename them.

- Area Code assignment which a set number of areas can be assigned to a site code. The areas are logical area codes and would represent many locations on the platform. These areas can be mapped many times to different location codes. Once the mappings are set, any work orders or PTW records that are received from external systems are automatically allocated an area code. For those records with no area code assignment, they will default to the ALL area code on the barrier model dashboard.

- Risk Assessment Search is the ability to search for a risk record.

- Action List which is an active list of actions a user may have to take. For example if they are part of the group of people assigned to a site who need to review a document, approve or endorse, then this risk record will be listed.

- Risk Assessment Entry is the window where a risk record is created and maintained. The record is broken into 6 screens which are

    - Header Window
    - Summary Window
    - Teams
    - Reviewers
    - Approvers and Endorsements
    - Hazards and Controls

2. Roles

Operations Superintendent oversees the management

- Onshore focal point for his/her installation
- Co-ordination of the on going barrier assessment.

OIM is accountable for the Cumulative Risk Assessment and is responsible for:

- The management of the safety of the installation
- Co-ordination of the on going barrier assessment.
- Satisfy them selves with the ongoing safe operation of the installation.
- Mitigation controls are being managed.
- All issues requiring a repair are captured on the relevant action trackers.

Technical Authorities will provide guidance on:

- Identification of inter-related failures.
- Acceptable and robust mitigation measures.
- Offer opinions on safe to continue to operate assessment.
- Intervene when they recognise a potential conflict on safe operation

3. User Requirements Set Up and Support

Requirement: THE COMPANY Network / Internet

Software Requirement: Internet Explorer or Chrome

Support: Access – Must be added to the Barrier Model application based on USERID.

http://52.28.111.38/barriermodeldb/BARRIER_MODEL_OMV.swf

4. Definitions

Asset Integrity is the outcome of good design, construction and operating practices. It requires the integrity management of Barriers designed to reduce the risks associated with Major Accident and Environmental Events. Such 'Barrier management' addresses all stages of Asset lifecycle from design, manufacture and fabrication, construction, installation, inspection and testing, operating and maintenance through to decommissioning. It also addresses the behaviours and training of people and the suitability and correct application of processes used in conjunction with these activities.

Barrier is a functional grouping of safeguards and controls selected to prevent, or limit the effects of a Major Accident or Environmental Event. Each barrier typically includes a mix of: plant (equipment), processes (documented and 'custom and practice') and people (personal skills and their application). The selected combination of these ensures the barrier should be suitable, sufficient and available to deliver its expected risk reduction. The barrier is the high level function group (e.g. Fire Suppression) and can be divided into separate Critical Systems (e.g. Deluge System), and further sub-divided into the Critical Elements (which generally be the tagged items representing the lowest level to which the Barrier can be sensibly sub-divided)

Safety Critical Element relates to any structure, equipment or component part where failure could cause or contribute to a Major Accident or Hazardous condition.

A **'non-conformance'** (reactive and unplanned) is a failure to adhere to an approved rule, procedure, process or standard, without prior approval from the appropriate authority.

A **'deviation'** (proactive and planned) is the intentional and approved non-conformance with mandatory requirements of a procedure, standard or specification. The justification shall be provided and approval obtained from an appropriate authority prior to the deviation taking effect. A deviation can be temporary, but will often be permanent for a specific installation.

A **'deferment'** is the movement of the agreed completion date of a Safety Critical planned maintenance activity.

For clarity purposes, the definition of Change is also included albeit this is described in a separate procedure.

A **'change'** is a planned action to revise: a rule, procedure, standard, process, hardware (including equipment and plant configuration) or organisation, such as will cause related activities to require revision in order to remain compliant. The approval of a change must be obtained in advance of its implementation.

PSIC Protective System Isolation Certificate, an 'override' (PSIC) is when any protective system device (including electronic, programmable or mechanical systems) is deliberately inhibited, blocked, disabled, defeated or otherwise prevented from performing its designated function.

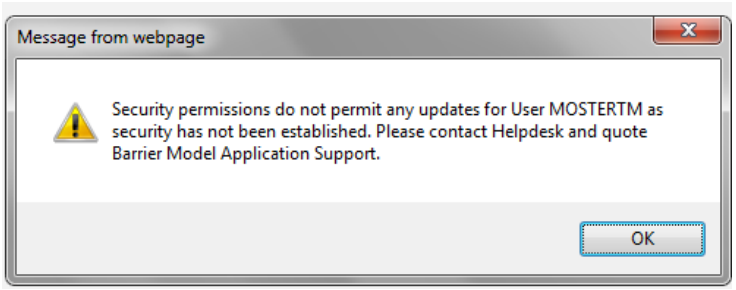
Work Management System – This is the Maximo asset and work system OR SAP PM Module which is integrated into the barrier model.

5. Navigation – Opening Page

When the barrier model application opens and if the user has called it from the dashboard, the model will open on the region and site that was in focus on the barrier model.

If the direct application URL is called, then the opening region will be the default region specified in the security as assigned to the user.

If the user does not have access then an error message will appear.



Menu Structure: The menu appears on the left hand side. All menu items are displayed, however based on the users role, not all menu items will be available. A grey menu option indicates no access. Menus that are in heavy bold indicate there is a sub menu.

Pending Actions: Below the menu will be the actions list. This list shows what actions for the approval routing are required by the user. There are 3 types of approvals – one as a reviewer, one as an Endorsement and the last is an Approval. The system will list all the approvals for that specific user and if the actions are overdue and by how many days. The user can then simply click on the action and it will open the associated risk record where they can then action the approval requests.

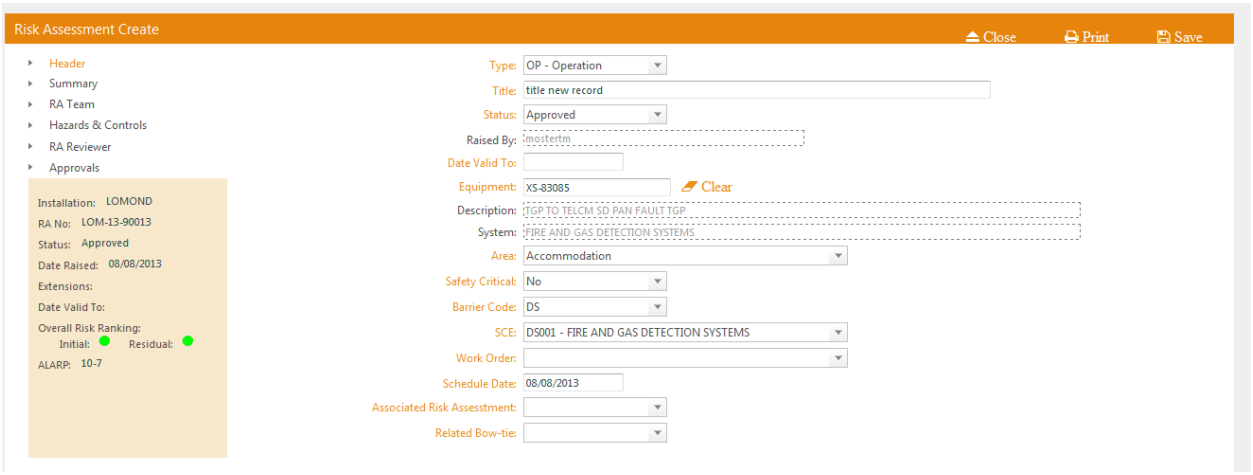
The ICONs in the pending actions list associate to the type of review required. If the ICONS is  this indicates a review. If it's a  then the approval is approaching overdue or is overdue and if the ICON is a  this means the record requires an OIM approval or endorsement.

The list of records displayed in the open HOME page is current open risk records. Any row in this list can be selected to edit, by selecting the OPEN command which is listed against each line.

Area	Type	Barrier	PS/SCE	Item	Title	Approved	Valid To	Status	Initial	Residual	ALARP	
Cellar Deck	PS	PC	PC007	DOL-13-00119	ORA-35 DAP 7 loss of annulus containment	05/21/2014	06/26/2015	Review			10-5	Open
Cellar Deck	PS	PC	PC004	DOL-13-00135	ORA-07 Pipeline inability to carry out pigging operations	09/09/2013	12/31/2013	Request			10-5	Open
	PS	PC	PC008	DOL-13-00136	ORA-026 Dissimilar Metals Corrosion and use of screwed fittings	09/09/2013	12/31/2013	Request			10-5	Open
Cellar Deck	PS	IC	IC003	DOL-13-00137	ORA-039 LAN-4000 Gas Generator package Ex rating status, & high temperature exhaust gases	09/10/2013	11/28/2014	Overdue			10-3	Open
Cellar Deck	PS	LS	LS003	DOL-13-00138	ORA-048 Life Boat redundancy	09/10/2013	07/04/2015	Review			10-5	Open
	PS	IC	IC003	DOL-13-00140	ORA-053 Ex Maintenance management	09/10/2013	12/31/2013	Overdue			10-6	Open
	PS	DS	DS001	DOL-13-00141	ORA-056 F&G System Availability during system outage/trips	09/11/2013	09/30/2013	Overdue			10-4	Open

6. Navigation – Risk Record

A risk record is made up of 6 screens which are noted in the submenu to the side. When a record is selected the main screen is overlaid with the single record.



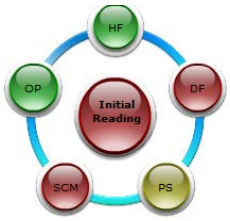
To change menus the user selects the sub menu. For a new record, the user can not change menus unless the header record has been established, so the user must fill out the header record first and select SAVE and then the remaining options will be available.

Note subsequent saves are not necessary between pages. So the user can move between page 1 and page 6 without having to SAVE every time. Once the SAVE event is selected all information is written back to the database.

Page 1 – Field Definitions

RA No – System generated. Each risk record created inside the barrier model is referenced with a unique number. This number is a combination of the site code, the year number and a sequence number. Sequence numbers are unique to each region.

Type – A drop down list which relates the risk record to one of the nodes on the barrier mode. These nodes are displayed behind the barrier so that PS – Process Safety will affect the PS node, OP – Operational Risk will affect the OP node and so on.



Status – The status of the record dictates where in the workflow the record is.

Request

- When a Risk Record is created it will have status request. During this stage there is no limit to time or amount of times the record is saved.
- At some stage the owner of the record will manually select “Review” as a status change. This kicks off the review routing.

Review

- The change to this status will trigger dates against each of the Reviewers on the document to review within 24 hours of the Request being made via the status progression.
- If the reviewers do not tick off on the new review tab within 24 hours, the system will highlight the message on the pending actions list. After a period for 2 days then escalate to the OIM based on the roll information for that site and a message will appear on the OIM indicating that actions have not been taken.
- Once all the Reviewers tick off the record then the status will automatically progress to Pending Approval.
- When the status is progressed the people marked as endorsers will have their pending actions updated.

Pending Approval

- When a record is in Pending Approval Status, it is ready for ATA endorsement which is where a nominated user will open the record and tick off the endorsement.
- Once the Endorsement is done, the OIM will receive a message on the Pending Actions List based on the role definition to approve.
- At this stage of the progression the record can not be updated. This requires a VIEW ONLY display mode to be invoked on these records with this status.

Approval

- The record status will be updated to approved when the oim ticks the approved button..

Overdue

- The status will update to Overdue once the system date passes the Date Valid To on the risk record.
- The system will issue a reminder to the OIM based on the role associated to the site 7 days before it becomes overdue

Closed

- The only way a record can be closed is via the action tracker. This means the users must open the action tracker and close the work off using this form. Closing down the action will then close down the original risk assessment and then refresh the barrier of this risk weighting.
- When user closes the record, date closed will be automatically updated based on the system date.
- Only a user with RA CLOSE can close down an action and consequently close down a risk record.

Barrier Effect

The following status codes will mean that risk data is included in the barrier model collection : Review, pending approval, approved, overdue.

Rejected

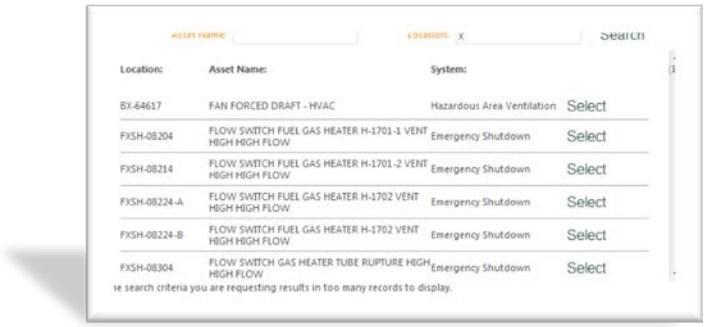
At any state of Review or Pending Approval – the record can rejected by selecting the rejected button on the approval tab which simply returns the risk record back to the state of Request and clear back all the approval and review ticks and dates.

Withdrawn

Is a manual status change at any stage of the work flow.

Date Valid To – This date is set by the user but also controls the number of extensions that occur. If a record goes past this Valid Due Date, the status is marked as overdue. Then the user can only process this back to Review. Once this is done, the number of extensions increases by 1. Once in review status, it requires all personnel noted on the risk record to apply their approvals to accept the overrun.

Equipment – This is a selection dialogue box which allows a user to nominate an asset (tag) record to the risk record if applicable. The selection is by tag number (Location) or by equipment description (Asset Name) and is a wild card search and is case sensitive. The selecting of an equipment record will prompt the automatic fill in of the system.



Area– The area code is based on the site currently selected. There are a nominated number of logical areas which the risk record applies to. If there is more than one area, the most impacted area should be selected. If the field is left blank then the risk record will only appear in area code marked ALL.

Safety Critical – Flag indicator is not mandatory.

Barrier Code – Nominate the barrier and the SCE Element the risk applies to. These are primary barriers and must be selected.

Work Order – Displays a list of work orders based on the SCE selected. These work orders are collected from the work management system automatically which is GWMS Maximo. If there is no relationship with a single work order the field can be blank.

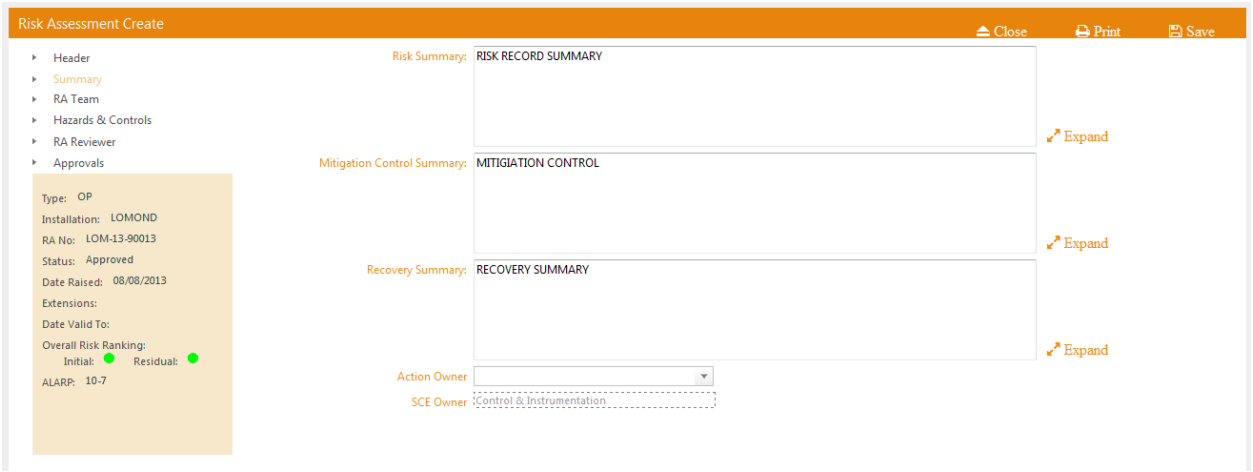
Associated Risk Assessment – lists the current open risk assessments for the site selected.

Related Bow Tie – Providing this information is loaded in the system, the related bow tie analysis document can be referenced. These are normally static lists and based on each installation. If the field is blank, please contact support if there is a specific reference that is needed to be added.

Grey Summary Section on the left hand side of the data entry window will display header information including the highest initial and residual reading for the record. As any risk record can have multiple hazard and controls, these are calculated and rolled up to the highest setting. The same applies for the ALARP figure associated to the highest scoring hazard.

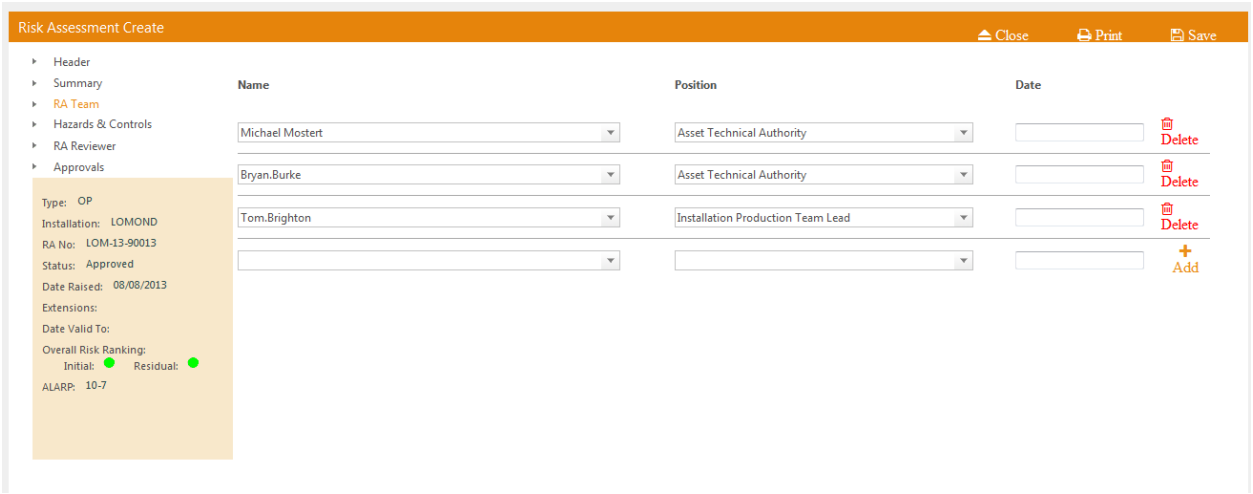
Risk Record Summary Page

The summary page allows for the entry of a risk summary, mitigation control and recovery. These fields appear on the dashboard under the messages tab. The user can expand these fields and type in a comprehensive set of text.



RA Team Page

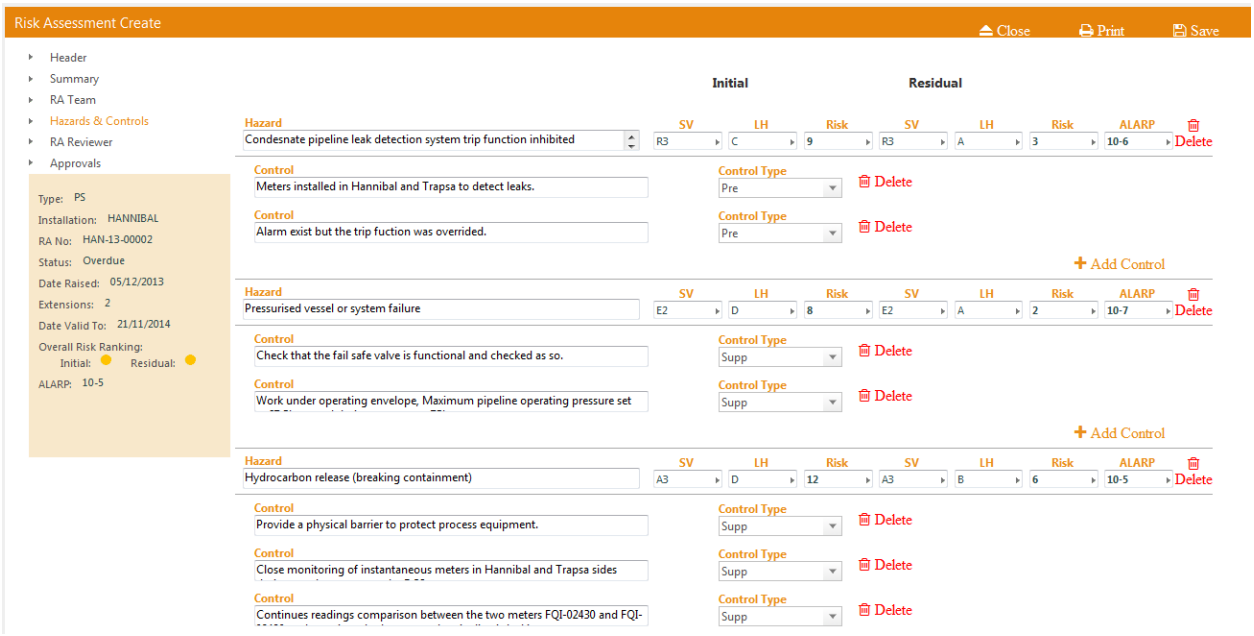
The team page is where the user specifies the members of the team that compiled the risk record. These people are not necessarily approvers or reviewers. The list of people is specific to the site selected based on security settings. (each user is nominated a series of sites and regions they have access to). If a team member needs to be removed, the delete option is available. There must be a minimum of 3 team members before the record can be progressed to review.



Hazard and Controls

From this window the user can enter in many hazards with each hazard having many controls. To add a new hazard select the Add Hazard option and this will create a blank row. The application uses the same scoring system for all hazards regardless of the risk type. This keeps all the logic of scoring the risk consistent.

Risk is set with initial and residual meaning that the risk ranking is before any mitigation is applied to residual being once the mitigation is fully in place. Only when a record is closed will the controls remain valid.



When the user locates the mouse inside the field SV then the following page will appear.

	People		Financial	Reputation			LIKELYHOOD				
							A	B	C	D	E
						Financial/Reputation	Never heard of in the Industry	Heard of in the Industry	Has happened in Company, or more than once per year in Company	Has happened in the Asset, or more than once per year in Company	Has happened at the facility, or more than once per year in the Asset
						People	Less than 1 in 1 millin chance per annum	Greater than 1 in 1,000 chance per annum	Between 1 in 100,000 and 1 in 1 million chance per annum	Between 1 in 10,000 and 1 in 100,000 chance per annum	Between 1 in 1,000 and 1 in 10,000 chance per annumm
							< 10-6 per year	10-6 < x < 10-5 per year	10-5 < x < 10-4 per year	10-4 < x < 10-3 per year	> 10-3 per year
	Workers	**Public**	**Asset**	**Environment**	**License to Operate / social impact**		**Highly Unlikely**	**Unlikely**	**Possible**	**Likely**	**Highly Likely**
5	Multiple Fatalities 5 > Numerous site injuries	Single fatality. >50 persons require medical treatment Some serious injuries	Extensive damage (>$1 billion)	LT and possibly irreversible damage; greater than 90% ecosystem or habitat impacted; ecosystem or habitat viability severely threatened, recovery, if at all, will take longer than 10 years once impact halted	Long-lasting public and industry outrage globally or in multiple strategic markets. Threat of loss of global License to Operate. Existing JV partners seek exit. Suppliers reluctant to enter contracts.	**Catastrophic**					
4	Single or few fatalities <5	>10 persons require medical treatment. Some serious injuries	Major damage (>$100m - $1 billion)	Measurable impact upon ecosystem or habitat; 30 - 90% of ecosystem or habitat impacted; viability threatened, although recovery anticipated within 3 to 10 years once impact halted	Long-lasting public / investor outrage but limited to single core market. Loss of License to Operate in core asset. Difficult to form new JVs.	**Major**					
3	Multiple lost time incidents or permanent disability	<10 persons require medical treatment. No serious injuries.	Localized damage ($10m - $100m)	Measurable impact upon ecosystem or habitat although viability not affected; 5 - 30% of ecosystem or habitat impacted in a significant way; recovery in 1 to 2 years once impact halted	Public outrage in non-core market or narrow-interest group protests in major market. Damage to existing relationships, core JV partners and suppliers. Regulatory action including prosecution.	**Severe**					
2	Single lost time incident (LTI)	Short term, minor effects. No medical treatment cases	Minor damage ($1m - $10m)	Measurable impact upon ecosystem or habitat although viability not impacted; 1 - 5% of ecosystem or habitat impacted; recovery less than 1 year.	Narrow-interest group protests in non-major market. Damage to existing relationships with non-major partners and suppliers. Regulatory action not resulting in prosecution)	**Significant**					
1	Minor Injury, first aid medical treatment or restricted workday case	Nuisance to off-site public	Slight effect; impact within fence, no exceedance of limits oil spill <1barrel	Ecosystem or habitat disturbance or alteration within natural variability; less than 1% of ecosystem or habitat impacted; recovery less than 6 months.	Isolated and uncoordinated local complaints. Minor damage to existing relationships with partners and suppliers	**Minor**					

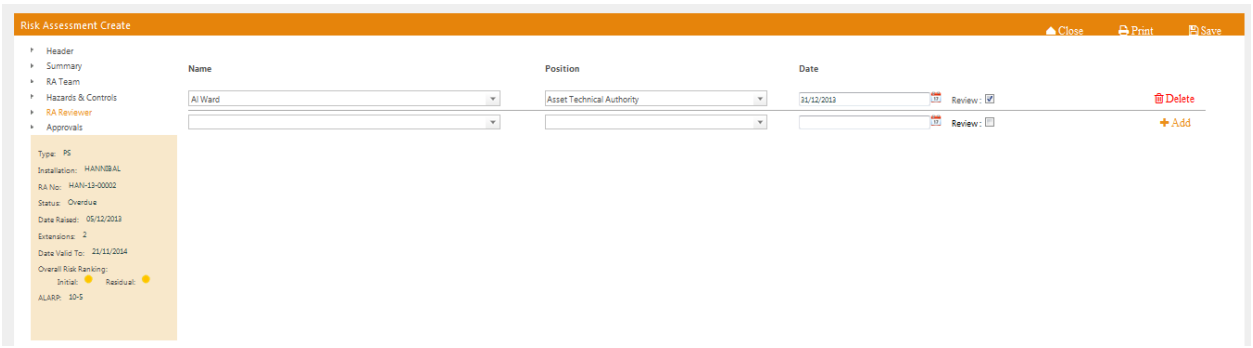
The user must choose a column on the left hand side to nominate if the condition is related to people, finance or reputation. Once this is selected and the severity noted, then likelihood can be selected.

For residual selection, the livelihood must be equal to or lower and the selection tool will enforce the same impact and ranking on people, finance or reputation.

These values are all stored against each risk record and available to the user at run time on the dashboard also when viewing a single transaction. This ensures the reason for selection is clearly noted as to why barrier effectiveness has been reduced.

Reviewers

Once a user has been added to this list, they are obliged to approve a newly added risk record that has been progressed to review within 24 hours. The risk record will appear instantly inside their pending actions list once saved as review. The reviewer only needs to tick the review tick box and once saved, will progress automatically to the next approval status of awaiting endorsement.

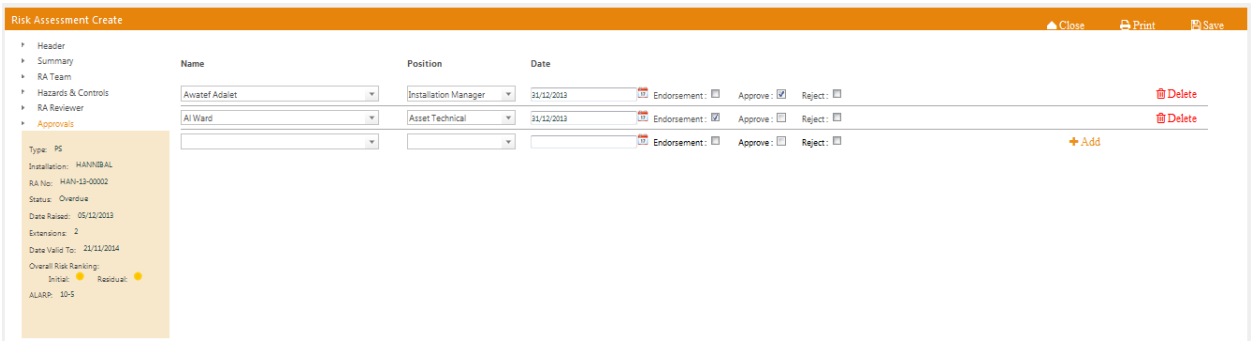


Approvers

As the record is reviewed, the next phase is an endorsement. The endorsement is handled in the approvals page of the risk record. The endorser will have a record displayed in the pending actions tab on the application and all that is required to endorse the record is to click the endorse tick box. However at any stage the record can be rejected which will remove all previous approvals and roll back the record to the rejected status. From rejected the user can move it to review again once the issues have been resolved.

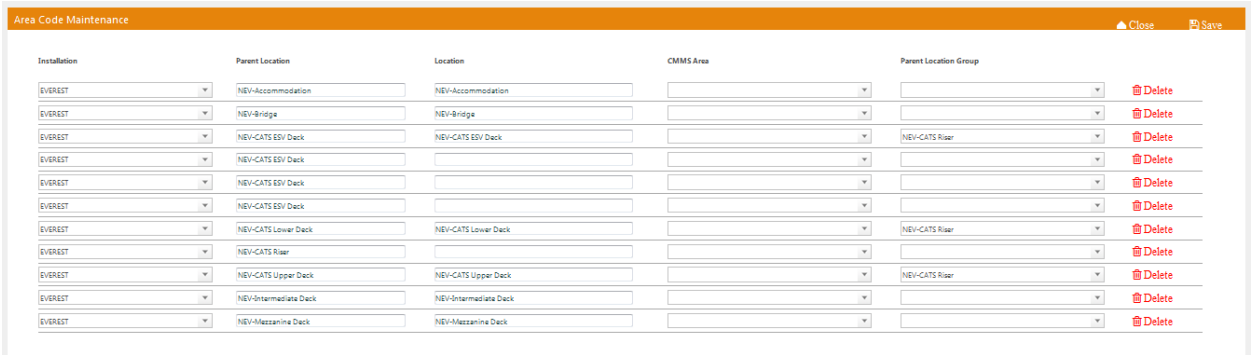
To approve, the record must be endorsed. Once endorses then the record will appear inside the pending action list for the approvers which are normally OIMs. Once they approve the risk record by ticking approve, the record is saved and the status update to approved.

At this stage the record cannot be updated, and an associated action is automatically created and available for update in the action tracker.



7. Navigation – Area Code Maintenance

Area codes are established for every site in every region. The area code maintenance is normally established once and then updated as required. There is a one to many relationship with an area code and the external systems.

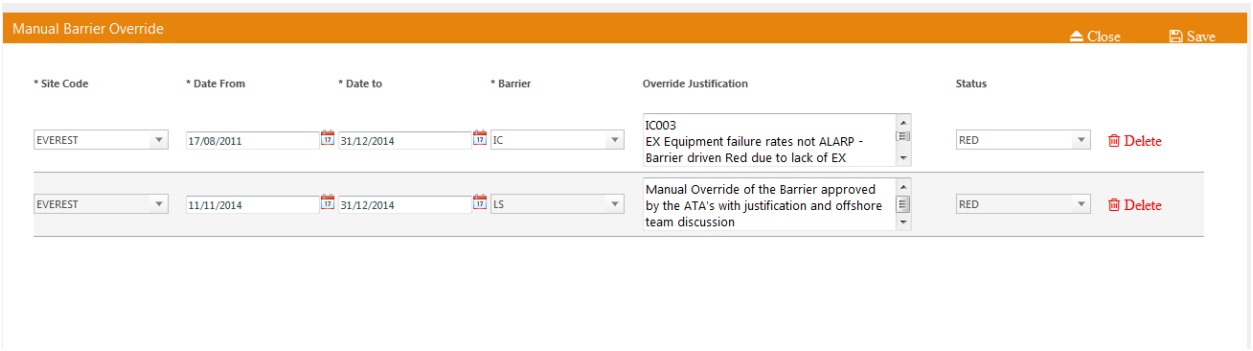


To establish a parent location group, simple create a area code with no location or CMMS area fields filled out and then save the record. Close the window and then re-open it and the parent location group will now contain the new area code. This area code can then be allocated to other areas and will be a consolidation point on the dashboard.

The parent location column is the actual area code that will be displayed on the dashboard and in the drop down lists on the application. There is currently a set number of area codes that can be established. The location field is a field from the remote PTW system and the CMMs Area is a work management location.

8. Navigation – Messages

Messages are an important aspect to the display of the barrier model. SITE level messages will be able to override the barrier colour code for a specific element. The colour override is optional so a message can appear for a barrier but not affect the colour range.

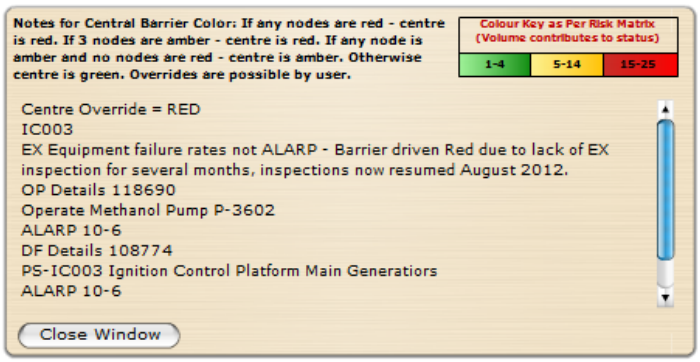


The window will filter messages based on the site code. Only the sites that the user has access to will be displayed. Messages can be posted in advanced with the dashboard displaying the relevant message based on the viewing date range.

As messages will build up over time they must not be removed from the system as they form part of the audit. Therefore the window by default will display all current and future messages as the default. The user then has the ability to override from and to dates with different ranges if more specific message time line is required.

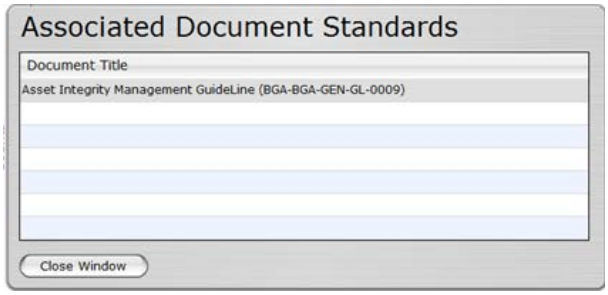
The fields site code, barrier and rank override will be drop down list boxes. The date fields will be based on the format of the local machine. Date from is before Date too. They can be the same date. There is no time component to the date field.

A message override appears on the barrier model in the explanation section.

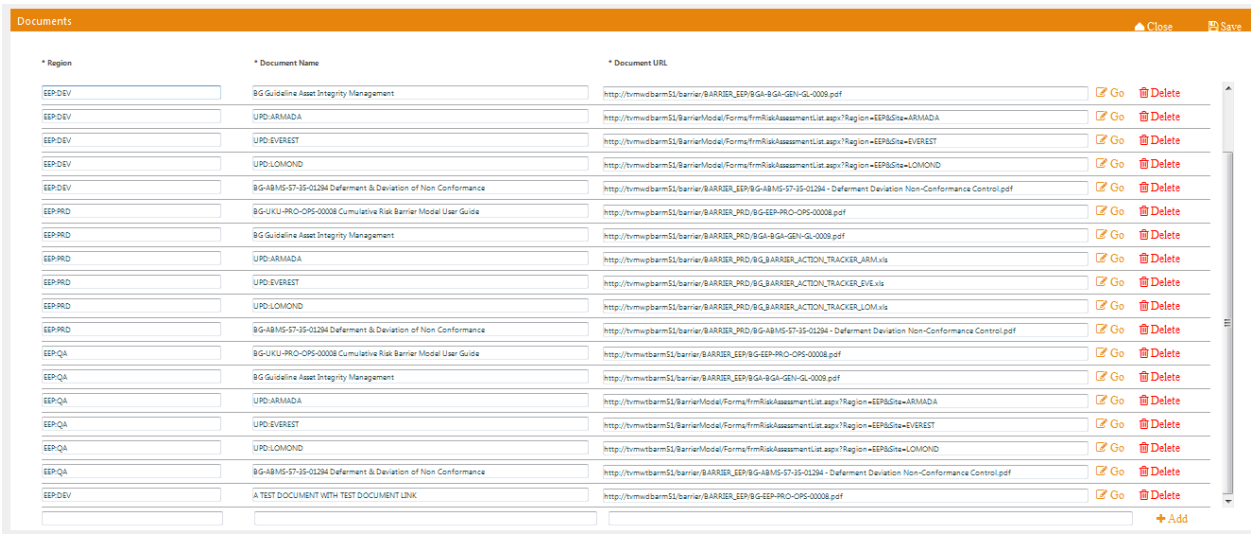


9. Navigation – Document References

Document links allow the user to store related documentation and manuals against the barrier model. This dialogue box appears when the user selects associated document standards from the reports tab on the dashboard. Any of these documents can be linked via any URL string.



Therefore the names of the document and the associated URL need to be maintained. The REGION setting controls the display of the documents. The document name is free text and the URL is entered as a text string.



10. Navigation – Action Tracker

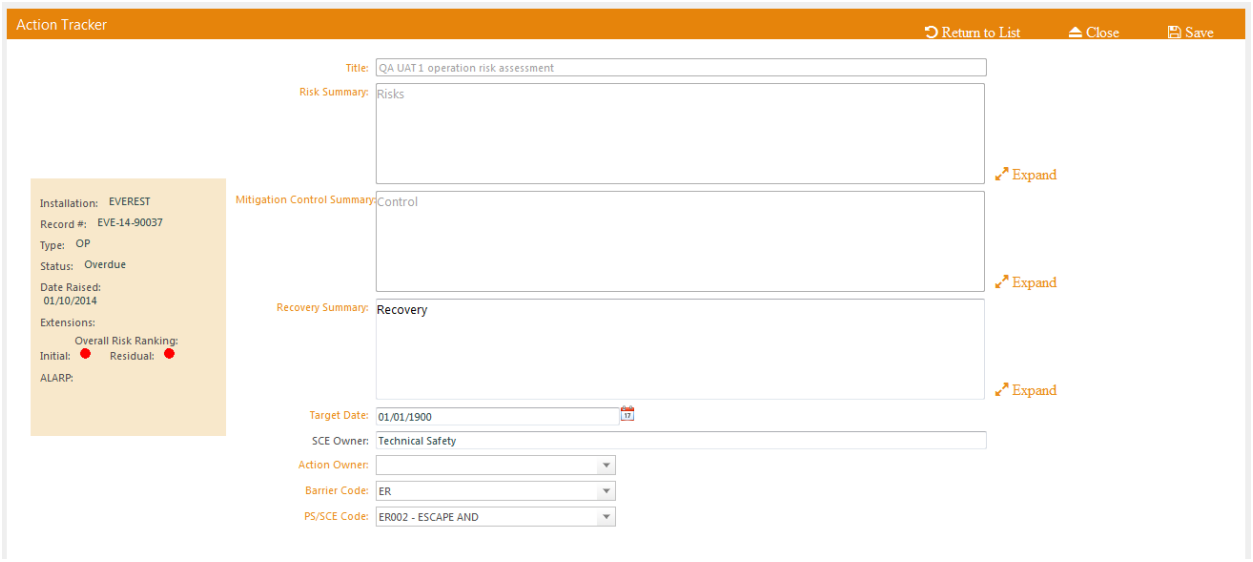
The action tracker maintenance allows users to update recovery information against an open risk record. The window works in such a way that all open items are gathered into the sheet during the open sequence and only current existing items are displayed. There are three types of records on display

1) Records that exist as stand alone action tracker records with no links to an PTW record (ITEM is NULL) that are not closed
2) Records that are linked to internal risk records which are active and the tracker record is also active

The data can then be updated by the user. For an action tracker item to be closed, the user must explicitly close the record by selecting the Closed Flag to Y. Only current items will then be displayed on the list, but the user must belong to the RA CLOSE group.

Note the fields will be protected if the record is linked to a risk record. If the record is not linked then all fields will be maintainable.

Selecting NEW will allow a user to create a new action which will appear on the action tracker report and on the barrier model. This record will be given a special ID number, otherwise the item number is the risk number.



11. Navigation – Security

The security window allows new users to be added to the application and existing users to be maintained.

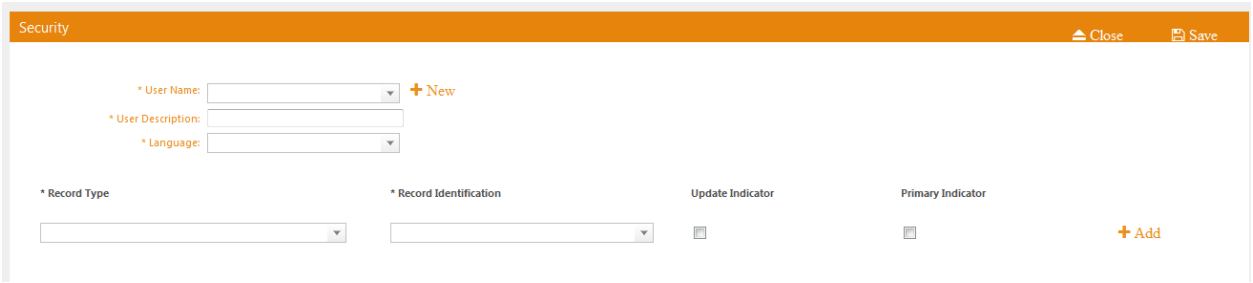
When establishing a user, the following considerations are to be taken

- The role the user plays inside the barrier model. See the below mentioned breakdown if roles. Only certain users will be allowed to approve risk assessments. These users must be identified with a role of APPROVER. The roles are predefined.

- The language code will determine the translation they will see anytime they open up the barrier model maintenance site regardless of their physical location.

- Which regions the user belongs to. A user can have access to multiple regions in the system. There is a primary indicator which must be set for a user. This is a mandatory requirement. The primary region will be defaulted when the user comes into the form, unless they have opened it from the barrier model in which case, the form will following the context of the barrier. If a user is permitted to update the region then the update indicator must be set.

- Which sites the user belongs to. There can be many sites the user is able to maintain. The update indicator shows which sites are allowed to be updated by the user. If this is not ticked then the user can only read the records. The save event will simply produce an error messages indicating that the records are not allowed to be updated due to the current security profile.



When the window opens the screen will operate in 2 modes, update or create.

Updating an existing user

If the action is to update then the user just needs to select from the drop down list on the username for the user they want to update.

Typing the name is the easiest way to locate the person.

Once the person is located and selected, the details will display on the screen.

Each user is selected a language code – at the moment there is only one language supported, however the application is designed to support multiple phases and language settings.

There is a list of regions and sites the user has access to. To add more sites, you must add the associated region first.

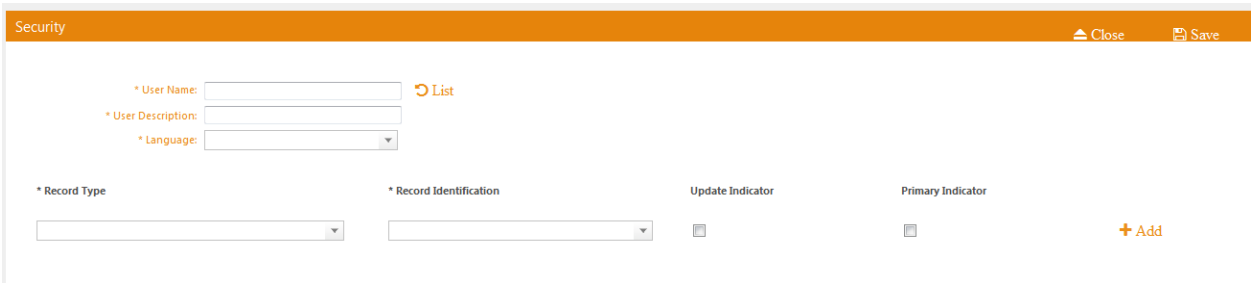
Selecting the Update Indicator allows the user to update records, and not selecting will mean the user is read only. The primary indicator is to be used for both region and site code and is used as a default region and site selection.

Terminating an employee

If the user is no longer to have access to the system, then all that has to happen is each row on this window needs to be deleted so that no region or site codes are available to the user. If the user has no regions or sites, then they are considered inactive.

Adding a new user

To add a new user select the +ADD command, which will switch the window into create mode.



Then simply type in the network username provided to you from helpdesk. This is not a case sensitive field, and will be converted to upper case automatically.

The user description is the persons real name and used on the drop down lists in the system.

The record type will be region or site, regions must be added first. During the create event the system will add the region and the site currently selected by default.

A user can have more than one region and more than one site code.

12. Navigation – Role Maintenance

The role maintenance set what actions they can take inside the application and specifically if they can

a) Approve a risk record

b) Endorse (acknowledge) a risk record

c) Review a risk record

d) Create a risk record

e) Add documents

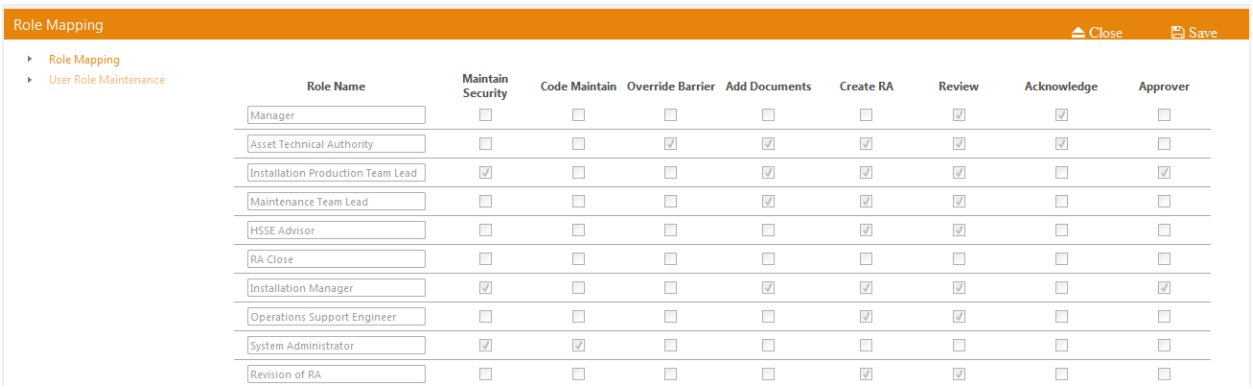
f) Override a Barrier Code

g) Update and maintain code maintenance

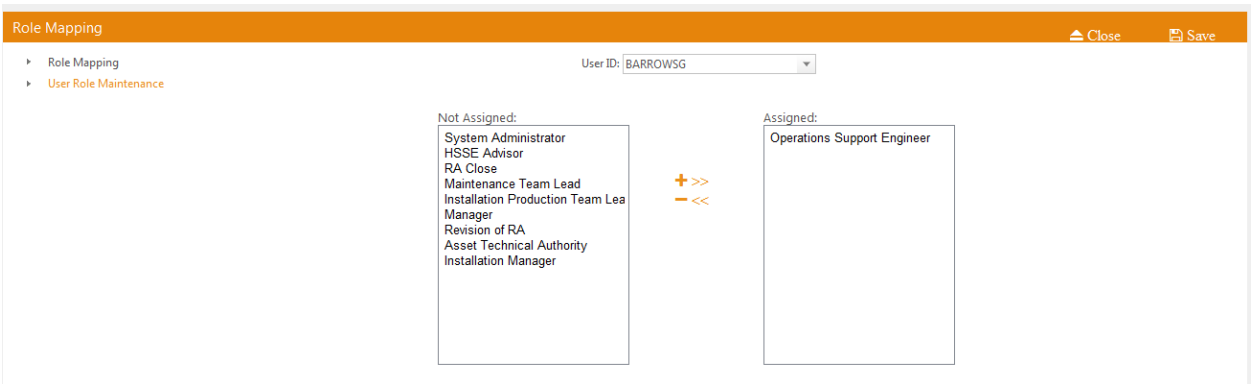
h) Update security

i) Close an action.

j) Revise an risk record



To update a use, click on user role maintenance. The first page role maintenance is view only and cannot be updated using the application.



Select a user to maintain. The user can have as many roles as required and the sum of all access will be taken from the combination of the roles assigned.

Note – for the user to be able to close an action, they must have RA Close assigned.

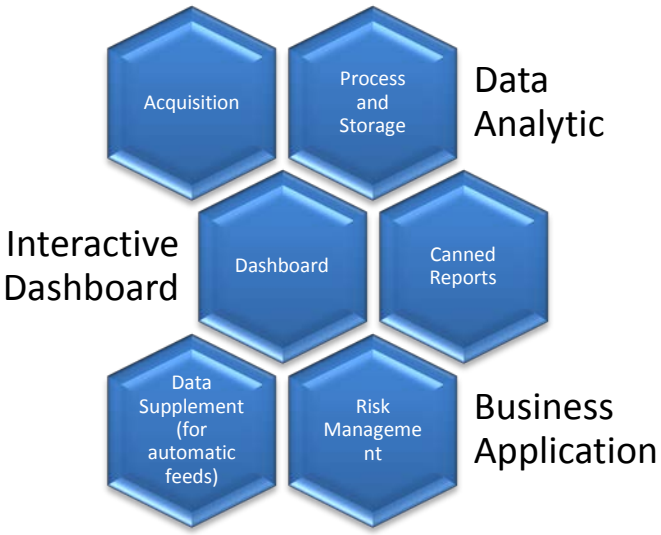
For a user to be able to take an overdue risk record and re-assign it back to review which will result in a new revision number, they must have Revision of RA in the assigned section.

13 Data Integration

The Barrier Model Dashboard links to live data from the Maintenance Management System (GWMS/SAP). Information is extracted from on key risk areas including:

(i) initial risk from impaired systems and systems where maintenance is overdue;
(ii) residual risk from these systems after mitigation measures have been taken into account; and
(iii) safety-critical element reliability information (providing information on the statistical likelihood of hidden failures and the potential for systems to fail when called upon in an emergency).

From a high level perspective the barrier model is based on the following items. This section looks at the details within the acquisition piece which is where barrier model connects to GWMS.



The structure of the barrier model remains the same for each region – re-using the same data analytic and same dashboard encapsulating business rules and presenting consistently across the group

Barrier Model is required to gather work order information once per day and stores this information into a temporary holding table. This allows the system to gather work management information from multiple sources.

During the original implementations of the barrier model, there were 3 different integrations into the barrier model for one region as each asset had different systems.

As the barrier model only gathers information once per day, its own structure is tiered. There is a business layer that resides in the barrier model which separates the remote system data. This structure is supported by Oracle database views which gather information from the different instances of Maximo and pull data into the barrier model holding tables.

3.5 Feedback Form

FEEDBACK FORM

This form should be used to notify comments or suggestions for improvement, relating to any aspect of the document identified below. Please return the completed form by Email, to the Technical Authority identified in the associated Document Information Sheet.

Document title: Written Scheme of Verification:	**Document No:**
	Issue No:
	Issue Date:

Comments by:	**Date**: ……
Name: ……..	**Email address / Contact Tel. No:** ……
Position: ……..	**Project / Business Unit:** ……..

Page / Section No:	**Comment**