

TOGA SYSTEM TOPAM Design Document

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1. INTRODUCTION

1.1 *Purpose and Scope*

This document covers the design of the TOPAM functionality for the TOGA system. The document is structured by Use Cases within the functional area and by screens referenced by the Use Cases. This document also describes TOPAM reports in detail.

The audience for this document is primarily the user community. There is also information about how screen fields are related to database fields so presenting a more technical view of the specification.

The Use Case section of this document contains a process flow that refers to alternate flows by number. Where no alternate flow exists, no alternate flow is defined. Alternate flows do not refer back to the originating basic flow.

All of the date fields within the system will allow the entry of engineering week/month/year formats (e.g. 17W04 equates to 19/04/2004). In the case of query screen parameters if an engineering week/month/year format is entered into an end date then the date will default to the end date of the period (e.g. 17W04 equates to 25/04/2004).

Each date field will also be able to invoke a calendar allowing the date to be easily chosen.

1.2 *Definitions*

All definitions used in the BETTA project workstream 1 are defined in reference [1]

1.3 *Related Documents*

1.3.1 **Project Documents:**

- [1]- 0009 BETTA TOGA Architecture Design.
- [2]- 0011 TOGA - TOPAM Basic Data Design.
- [3]- 0018 TOGA TO Interface Specification.
- [4]- 0019 TOGA J2EE Design PD204.
- [5]- 0023 TOGA - TOPAM Reports Design.
- [6]- 0026 TOGA - TOPAM Outage Requests Design.

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- [7]- 0027 TOGA - TOPAM Outage Management Design.
- [8]- 0032 TOGA - TOPAM Reporting Design.
- [9]- 0034 TOGA - Help and User Documentation Design.
- [10]- 0039 TOGA - Phase 2.1 Reporting Design.
- [11]- 0041 TOGA - TOPAM Commissioning Assets Design.
- [12]- 0046 TOGA - Phase 2.2 Reports Design.
- [13] BETTA Phase 2 (TOGA) System Requirement Specification
IS\39.10.0065
- [14] Snapshot of TOGA Tracker Events for Phase2, IS\39.10.0069

1.3.2 External Documents:**1.3.3 National Grid Business Documents:****1.3.4 IS Documents:**

- [10] - Technology roadmap
- [11] - Technology application landscape

1.4 Date Range Entry (for TOPAM Reports)

Whenever start and end dates are required for a report the user can enter them using the standard date format (DD/MM/YYYY).

Alternatively an engineering week can be entered in the start date and the end left blank. In this case the first day of the week will be used for the start of the report and the end day of the week will be used for the end of the report.

The user also has the option of entering an engineering week in both the start and end dates. In this case the report will run from the first day of the 'Start' engineering week until the last day of the 'End' engineering week.

2. DATA ACCESS

2.1 *General Access*

Access to data records of many types will be restricted according to a users type. This restriction applies to accessing the records (for viewing or update), inserting data records and also restricts the values that would appear in a drop down list for example.

2.2 *Substation Data*

Access to substation data records will be restricted according to a users type. An SO user will be able to view all substations, a TO user will only be able to view substations within their own licensed area. No other users will be able to view any substations.

2.3 *Asset Data*

Access to asset data records will be restricted according to a users type. An SO user will be able to view all assets, a TO user will only be able to view assets within their own licensed area. No other users will be able to view any assets.

2.4 *Basic Outage Data*

Access to basic outage records will be restricted according to a users type. An SO user will be able to view all basic outage records, a TO user will only be able to view basic outage records falling within their own licensed area. No other users, including external parties, will be able to view any basic outage records.

2.5 *Free Code Data*

Access to free code records will be restricted according to a users type. An SO user will be able to view all free codes, a TO user will only be able to view free codes for their own licensed area or those viewable by 'ALL' TOs. No other users will be able to view any free codes.

2.6 *Party Data*

Access to party data records will be restricted according to a users type. There are three types of parties defined within this section of TOGA: SO Parties, TO Parties and External Parties (which comprise Powerstations, DNOs and DCCs). An SO user will be able to view all SO, TO and External parties. A TO user will be able to view all SO parties but only TO and External parties which belong to

their licensed area. An external party user will only be able to select their own External party code but not any SO or TO party codes.

2.7 Request Outage Data

Access to request outage records will be restricted according to a users type. An SO user will be able to view all request outage records, a TO user will only be able to view request outage records falling within their own licensed area. No other users, including external parties, will be able to view any request outage records.

2.8 Basic Outage Data

Access to basic outage records will be restricted according to a users type. An SO user will be able to view all basic outage records, a TO user will only be able to view basic outage records falling within their own licensed area. No other users, including external parties, will be able to view any basic outage records.

2.9 Free Code Data

Access to free code records will be restricted according to a users type. An SO user will be able to view all free codes, a TO user will only be able to view free codes for their own licensed area or those viewable by 'ALL' TOs. No other users will be able to view any free codes.

2.10 Party Data

Access to party data records will be restricted according to a users type. There are three types of parties defined within this section of TOGA: SO Parties, TO Parties and External Parties (which comprise Powerstations, DNOs, DCCs and TOs). An SO user will be able to view all SO, TO and External parties. A TO user will be able to view all SO parties but only TO and External parties which belong to their licensed area. An external party user will only be able to select their own External party code but not any SO or TO party codes.

2.11 Planned Outage Data

Access to request outage records will be restricted according to a users type. An SO user will be able to view all request outage records, a TO user will only be able to view request outage records, except for SO Confidential outages, falling within their own licensed area. Other users will only be able to view pending outages where they are one of the interested parties.

Note that a TO may be defined as an externally interested party on an outage belonging to another licensed area. In this case the TO will have read only access to the outage (in the same way as any other external party).

2.12 Pending Outage Data

Access to pending outage records will be restricted according to a users type. An SO user will be able to view all pending outage records, a TO user will only be able to view pending outage records falling within their own licensed area. Other users will only be able to view pending outages where they are one of the interested parties.

2.13 Request Outage Data

Access to request outage records will be restricted according to a users type. An SO user will be able to view all request outage records, a TO user will only be able to view request outage records falling within their own licensed area. No other users, including external parties, will be able to view any request outage records.

2.14 Basic Outage Data

Access to basic outage records will be restricted according to a users type. An SO user will be able to view all basic outage records, a TO user will only be able to view basic outage records falling within their own licensed area. No other users, including external parties, will be able to view any basic outage records.

2.15 Free Code Data

Access to free code records will be restricted according to a users type. An SO user will be able to view all free codes, a TO user will only be able to view free codes for their own licensed area or those viewable by 'ALL' TOs. No other users will be able to view any free codes.

2.16 Party Data

Access to party data records will be restricted according to a users type. There are three types of parties defined within this section of TOGA: SO Parties, TO Parties and External Parties (which comprise Powerstations, DNOs, DCCs and TOs). An SO user will be able to view all SO, TO and External parties. A TO user will be able to view all SO parties but only TO and External parties which belong to their licensed area. An external party user will only be able to select their own External party code but not any SO or TO party codes.

3. USE CASES

3.1 *Maintain Basic Outage Records*

3.1.1 List Basic Outages

3.1.1.1 *Description*

The use case is triggered when the user wants to display a specific list of outages in order to:

- view an outage.
- amend an outage.
- delete/cancel an outage.
- retrieve a copy of the outage data as a first step to creating a new outage.
- agree/disagree an outage.

3.1.1.2 *Basic Flow*

- 3.1.1.2.1 The system displays the screen 1010101QueryBasicOutages
- 3.1.1.2.2 The user can enter the starting characters of the reference code.
- 3.1.1.2.3 The user can choose the licensed area from the list
- 3.1.1.2.4 The user can enter a basic outage group.
- 3.1.1.2.5 The user can choose the status from the list.
- 3.1.1.2.6 The user can choose whether to solely search for DNO or Non DNO outages by choosing the option from the DNO Outage list
- 3.1.1.2.7 The user can select one or more parties
- 3.1.1.2.8 The user can choose whether to list Risk outages only or all outages.
- 3.1.1.2.9 The user can enter a valid from and to date for the search
- 3.1.1.2.10 The user can choose to only show Basic Outages starting or ending within the date range or all those which intersect with the date range.
- 3.1.1.2.11 The user can choose to search for outages referencing a particular substation by choosing the 'Substation' option, entering a valid substation code and pressing the Add button. The substation will be added to the list of substations on the screen. If the user does not know the substation code they can use the 'Find' button to allow

them to search for the substation. This will bring back a substation code and automatically add it to the list.

- 3.1.1.2.12 Alternatively the user may enter a substation group. This is achieved by selecting the 'Group' option, entering a substation group code and pressing the Add button. The substation group code is added to the substation list. If the user does not know the substation group code they can use the Find button, which displays the substation group list screen for where the user may pick a substation group and the system will add it to the substation list.
- 3.1.1.2.13 The user can choose whether the outages should contain all the listed substations and groups or at least one of the substations.
- 3.1.1.2.14 User presses the List button
- 3.1.1.2.15 The system displays the screen 1010102ListBasicOutages.
- 3.1.1.2.16 The system displays a list of basic outages in ascending Code order. The outages listed match the search criteria entered by the user.
- 3.1.1.2.17 The use case ends.

3.1.1.3 Special Requirements (Secure Access Privilege)

Accessible by ViewBasicOutages and EditBasicOutages security operations.

If basic mandatory details of a Basic Outage are filled in the screen (page 1) then it should save the data and allow the user to come back later (navigate to other screens) and query that basic outage as well as save the rest of the details.(1406)

3.1.1.4 Pre-conditions

None

3.1.1.5 Post-conditions

None

3.1.1.6 Extension Points

Create Basic Outage, Modify Basic Outage, Delete Basic Outage, View Basic Outage.

3.1.2 Create Basic Outage

3.1.2.1 Description

The user wants to create a new basic outage. It is expected that a TO administrator will create the basic outage records.

3.1.2.2 Basic Flow 1 (New Basic Outage)

- 3.1.2.2.1 The system displays the screen 1010104AddBasicOutage
- 3.1.2.2.2 The system prompts the user to enter unique outage identifier code for new basic outage
- 3.1.2.2.3 The user selects licensed TO operating area offered in the defined list.
- 3.1.2.2.4 As the user is creating basic outage system displays outage record status as editable.
- 3.1.2.2.5 User enters Outage validity date range.
- 3.1.2.2.6 The type of impact can be selected from pre defined SO impact list, which is presented for the user.
- 3.1.2.2.7 User must save the basic outage details before linking substations and assets to the outage. User therefore presses 'Save' button
- 3.1.2.2.8 Basic outage data is validated and saved to the database. (see alternative flow 3.1.2.4.1).
- 3.1.2.2.9 System allows find option where substations are retrieved from the available list.
- 3.1.2.2.10 User selects and adds the substation to the outage. Associated substation details (Substation code, Substation name) are displayed.
- 3.1.2.2.11 It is mandatory to have at least one substation associated with the outage (see alternative flow 3.1.2.4.2).
- 3.1.2.2.12 User has option to pick delete from the selected list of substation.
- 3.1.2.2.13 After selecting the substation system retrieves and displays the corresponding assets associated to the substation.
- 3.1.2.2.14 It is not mandatory to associate assets against the selected substation.
- 3.1.2.2.15 User adds assets by selecting from the list. Asset details are the displayed (Asset code, Asset name)
- 3.1.2.2.16 System automatically displays the list of associated SO and TO party with details (party code, party description)
- 3.1.2.2.17 User enters a description of the circuit

- 3.1.2.2.18 User selects equipment owner from defined list.
- 3.1.2.2.19 User specifies basic outage group that the outage belongs to.
- 3.1.2.2.20 User enters operational remarks.
- 3.1.2.2.21 User checks checkbox if the basic outage is a Demand at Risk outage and then enters details of the risk in the Risk Details field.
- 3.1.2.2.22 The user must save these details by pressing the 'Save' button.
- 3.1.2.2.23 User has option to pick an **External Party** from a list and add to the outage.
- 3.1.2.2.24 The user can repeat the above steps to add more parties.
- 3.1.2.2.25 User can enter a comment against each External Party.
- 3.1.2.2.26 The user must press the 'Save' button to save the comments to the database.
- 3.1.2.2.27 User has the option to pick delete from the list of selected external parties
- 3.1.2.2.28 User has option to pick a **Free Code** from a list and add to the outage.
- 3.1.2.2.29 The user can repeat the above step to add more free codes.
- 3.1.2.2.30 User has the option to pick delete from the list of selected free codes
- 3.1.2.2.31 User has option to enter a **Tower Ref** and add it to the outage.
- 3.1.2.2.32 The user can repeat the above step to add more Tower References.
- 3.1.2.2.33 User has the option to pick delete from the list of entered tower references
- 3.1.2.2.34 Outage record is saved to the database.
- 3.1.2.2.35 The use case ends.

3.1.2.3 Basic Flow 2 (Outage Pre-Existing)

- 3.1.2.3.1 If the user wants to base new outage on existing outage record the user must select the basic outage and press the 'Copy' button.
- 3.1.2.3.2 The system displays the Add Basic Transmission Outage screen to the user with all of the fields pre-filled from the outage being copied except for the Code field. The status will default to 'Editable'.

3.1.2.3.3 The user manipulates outage details as mentioned in steps of Basic Flow 1 (New Basic Outage)

3.1.2.3.4 Outage record is saved to the database.

3.1.2.3.5 The use case ends.

3.1.2.4 Alternative Flow (New Basic Outage)

3.1.2.4.1 If the user inputs non unique outage identifier code system prompts with appropriate message suggesting corrective action. "Please enter a unique outage number".

3.1.2.4.2 If the user does not associate any sub station, system prompt with message " OUTAGE MUST HAVE AT LEAST ONE SUBSTATION ASSOCIATED"

3.1.2.5 Alternative Flow (Outage Pre-Existing)

3.1.2.5.1 Alternative flow steps for this basic flow is same as mentioned for basic flow (New Basic Outage).

3.1.2.6 Special Requirements (Secure Access Privilege)

Accessible by EditBasicOutages security operation.

3.1.2.7 Pre-conditions

Outage record must be existing in the database for execution for basic flow 2 (Outage Pre-Existing)

3.1.2.8 Post-conditions

Outage record is successfully created and stored in database.

3.1.2.9 Extension Points

None.

3.1.3 View Basic Outage

3.1.3.1 Brief Description

The user wants to view the details of a basic outage.

3.1.3.2 Basic Flow

3.1.3.2.1 The user selects the outage from the list.

3.1.3.2.2 The system displays the screen 1010103ViewBasicOutage

3.1.3.2.3 The system displays the basic outage in read only format.

3.1.3.2.4 The use case ends.

3.1.3.3 Special Requirements (Secure Access Privilege)

Accessible by ViewBasicOutages security operation.

3.1.3.4 Pre-conditions

Outage record must be queried in the screen 1010102ListBasicOutages

3.1.3.5 Post-conditions

None

3.1.3.6 Extension Points

None.

3.1.4 Modify Basic Outage

3.1.4.1 Brief Description

The user wants to modify the details of a basic outage.

3.1.4.2 Basic Flow

3.1.4.2.1 The user selects the outage for modification

3.1.4.2.2 The system displays the screen 1010105EditBasicOutage

3.1.4.2.3 The system populates the screen with the details of the outage.

3.1.4.2.4 The user can modify the data as specified in the 'Create Basic Outage' use case except the outage code and valid

3.1.4.2.5 The user can change the **licensed TO operating area** to a value offered in the defined list.

3.1.4.2.6 The user can change the **status** to a value offered in the defined list.

3.1.4.2.7 User can amend the **valid to** date.

3.1.4.2.8 The type of impact can be selected from pre defined **SO impact** list is presented for the user.

3.1.4.2.9 User records his comments as outage **description**

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- 3.1.4.2.10 User selects **equipment owner** from defined list.
- 3.1.4.2.11 User specifies **basic group** that the outage belongs to.
- 3.1.4.2.12 User enters operational remarks.
- 3.1.4.2.13 The user can identify the outage as a Demand at Risk outage and enter details of the risk.
- 3.1.4.2.14 User presses 'Save' button. Outage record is saved to the database.
- 3.1.4.2.15 System allows find option where **substations** are retrieved from the available list.
- 3.1.4.2.16 User selects and adds the substation to the outage. Associated substation details (Substation code, Substation name) are displayed.
- 3.1.4.2.17 It is mandatory to have at least one substation associated with the outage (see alternative flow 3.1.4.3.1).
- 3.1.4.2.18 User has option to pick delete from the selected list of substation.
- 3.1.4.2.19 After selecting the substation system retrieves and display the corresponding assets associated to the substation.
- 3.1.4.2.20 It is not mandatory to associate assets against the selected substation.
- 3.1.4.2.21 User adds assets by selecting from the list. Asset details are the displayed (Asset code, Asset name)
- 3.1.4.2.22 System automatically displays the list of associated SO and TO party with details (party code, party description)
- 3.1.4.2.23 User has option to pick an **External Party** from a list and add to the outage.
- 3.1.4.2.24 The user can repeat the above steps to add more parties.
- 3.1.4.2.25 User has the option to pick delete from the list of selected external parties.
- 3.1.4.2.26 The user can specify whether to apply the changes to related request, planned and pending outages and if so must specify an effective date after which the changes will be applied.
- 3.1.4.2.27 Each time an external party is added or removed from the basic outage the system will check whether the user has either specified not to apply the change to related outages or whether they have supplied a date after which the change should be applied. The change will be made to all Request, Pending and Planned outages

with an end date (or window end date in the case of Requests) after the entered date. (see alternative flow 3.1.4.3.3).

- 3.1.4.2.28 User can enter or update a comment against each External Party. The user must press the 'Save Comments' button to save the comments to the database.
- 3.1.4.2.29 When a comment is added to an external party on the basic outage the comment will be copied to the request, pending or planned outage. If the text of an external party comment is updated for an existing external party on the basic outage then this change should not be rolled forward onto the request, pending or planned outage.
- 3.1.4.2.30 User has option to pick a **Free Code** from a list and add to the outage.
- 3.1.4.2.31 The user can repeat the above step to add more free codes.
- 3.1.4.2.32 User has the option to pick delete from the list of selected free codes
- 3.1.4.2.33 User has option to enter a **Tower Ref** and add it to the outage.
- 3.1.4.2.34 The user can repeat the above step to add more Tower References.
- 3.1.4.2.35 User has the option to pick delete from the list of entered tower references
- 3.1.4.2.36 Outage record is saved to the database.
- 3.1.4.2.37 The current date and user id are stored in the Last Updated By' and 'Last Updated' fields.
- 3.1.4.2.38 The use case ends.

3.1.4.3 Alternative Flow (New Basic Outage)

- 3.1.4.3.1 If the user does not associate any sub station, system prompt with message "OUTAGE MUST HAVE AT LEAST ONE SUBSTATION ASSOCIATED"
- 3.1.4.3.2 The use case ends.
- 3.1.4.3.3 If the user has added or removed an external party, without specifying that either:
 - they do not want to apply the changes to request, pending and planned outages that refer to the basic outage or
 - specifying the date to apply the changes from

then the system will display an error message indicating that the user must either enter a date or specify that the changes should not be applied to outages referencing the basic outage.

3.1.4.3.4 The use case ends.

3.1.4.4 Special Requirements (Secure Access Privilege)

Accessible by EditBasicOutages security operation.

3.1.4.5 Pre-conditions

Outage record must be queried in the screen 1010102ListBasicOutages

3.1.4.6 Post-conditions

Outage record is successfully modified.

3.1.4.7 Extension Points

Change Basic Outage Status

3.1.5 Change Basic Outage Status

3.1.5.1 Brief Description

The user wants to change the status of the outage. The main reasons for this will be:

1. for the TO to offer the outage to the SO for approval or to show it is still being edited.
2. for the SO to accept or reject the outage
3. for the user to set the outage to be no longer usable.

3.1.5.2 Basic Flow

3.1.5.2.1 User selects outage for update

3.1.5.2.2 The system displays the screen 1010105EditBasicOutage

3.1.5.2.3 User changes status field to one of the valid values in the list.

3.1.5.2.4 Outage record is saved to the database.

3.1.5.2.5 The current date and user id are stored in the Last Updated By' and 'Last Updated' fields.

3.1.5.2.6 The use case ends.

3.1.5.3 Special Requirements (Secure Access Privilege)

Accessible by EditBasicOutages security operation.

3.1.5.4 Pre-conditions

Outage record must be queried in the screen 1010102ListBasicOutages

3.1.5.5 Post-conditions

Status on outage changed.

3.1.5.6 Extension Points

None

3.1.6 Delete Basic Outage**3.1.6.1 Brief Description**

The user wants to delete a basic outage record.

3.1.6.2 Basic Flow

- 3.1.6.2.1 User selects the outage for update.
- 3.1.6.2.2 User selects the delete option
- 3.1.6.2.3 Outage record is deleted from the database.
- 3.1.6.2.4 The use case ends.

3.1.6.3 Basic Flow 2

- 3.1.6.3.1 User selects the outage for update
- 3.1.6.3.2 The system displays the screen 1010105EditBasicOutage
- 3.1.6.3.3 Delete option not available so user sets the status to 'Withdrawn from Use' to prevent future use of the outage.
- 3.1.6.3.4 Outage record is saved to the database.
- 3.1.6.3.5 The current date and user id are stored in the Last Updated By' and 'Last Updated' fields.
- 3.1.6.3.6 The use case ends.

3.1.6.4 Special Requirements (Secure Access Privilege)

Accessible by EditBasicOutages security operation.

3.1.6.5 Pre-conditions

Outage record must be queried in the screen 1010102ListBasicOutages. For basic flow 1 the outage must not be referenced by any request, pending or planned outage. For basic flow 2 the outage must be referenced by either a request, pending or planned outage.

3.1.6.6 Post-conditions

Outage deleted from database (basic flow 1) or updated (basic flow 2)

3.1.6.7 Extension Points

None.

3.2 Maintain Free Codes**3.2.1 Maintain Free Codes****3.2.1.1 Brief Description**

The administrator needs to add or modify a free code value or description. The administrator may also flag the code as 'no longer available for use'.

3.2.1.2 Basic Flow 1 (Add Free Code – TO User)

- 3.2.1.2.1 The system displays screen 1010201FreeCodes.
- 3.2.1.2.2 The system displays a list of all free codes which have a Used By matching the users TO value. The list should be ordered with 'Active' first.
- 3.2.1.2.3 The user must enter a unique free **code**
- 3.2.1.2.4 The user must enter the free code **description**
- 3.2.1.2.5 The user may check the **Availability** checkbox
- 3.2.1.2.6 The user presses the Add button
- 3.2.1.2.7 The data is saved to the database including the last update date/time and user id. (see alternative flow 3.2.1.3.1)
- 3.2.1.2.8 The list of free codes is refreshed displaying the new record.
- 3.2.1.2.9 The use case ends.

3.2.1.3 Alternative Flow 1 (Add Free Code – TO User)

- 3.2.1.3.1 System displays error message "Free Code not unique".

3.2.1.4 Basic Flow 2 (Add Free Code – SO User)

- 3.2.1.4.1 The system displays screen 1010201FreeCodes
- 3.2.1.4.2 The system displays a list of all free codes regardless of the Used By value.
- 3.2.1.4.3 The user must enter a unique free **code** (see alternative flow 3.2.1.5.1)
- 3.2.1.4.4 The user must enter the free code **description**
- 3.2.1.4.5 The user may check the **Availability** checkbox,
- 3.2.1.4.6 The user must select the **Used By** value from the list.
- 3.2.1.4.7 The user presses the Add button
- 3.2.1.4.8 The data is saved to the database including the last update date/time and user id.
- 3.2.1.4.9 The list of free codes is refreshed displaying the new record.
- 3.2.1.4.10 The use case ends.

3.2.1.5 Alternative Flow 2 (Add Free Code – SO User)

- 3.2.1.5.1 System displays error message “Free Code not unique”. The use case continues at step 3.2.1.4.3.

3.2.1.6 Basic Flow 3 (Modify Free Code)

- 3.2.1.6.1 The system displays screen 1010201FreeCodes
- 3.2.1.6.2 The system displays a list of free codes viewable by the user.
- 3.2.1.6.3 The user checks or unchecks the **available** checkbox on one or more of the free codes.
- 3.2.1.6.4 The user presses the Save button.
- 3.2.1.6.5 The data changes are saved to the database and the last update date/time and user id are updated.
- 3.2.1.6.6 The list of free codes is refreshed displaying the updated information.
- 3.2.1.6.7 The use case ends.

3.2.1.7 Basic Flow 4 (Delete Free Code)

- 3.2.1.7.1 The system displays screen 1010201FreeCodes
- 3.2.1.7.2 The system displays a list of free codes viewable by the user.

- 3.2.1.7.3 The system will display a delete icon next to each free code record which is not being referenced by any basic, request, pending or planned outages.
- 3.2.1.7.4 The user selects the delete icon next to one of the free codes.
- 3.2.1.7.5 The free code record is deleted from the database.
- 3.2.1.7.6 The list of free codes is refreshed.
- 3.2.1.7.7 The use case ends.

3.2.1.8 Special Requirements (Secure Access Privilege)

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

3.2.1.9 Pre-conditions

None

3.2.1.10 Post-conditions

Free codes records added, modified or deleted.

3.2.1.11 Extension Points

None.

3.3 Maintain Substation Records

3.3.1 List Substations

3.3.1.1 Brief Description

The user wants to list the substations in order to view or amend the data.

3.3.1.2 Basic Flow

- 3.3.1.2.1 The system displays the screen 1010301QuerySubstns
- 3.3.1.2.2 The user can enter the starting characters of the substation code.
- 3.3.1.2.3 The user can choose the licensed area from the list
- 3.3.1.2.4 The user can choose the owner from the list
- 3.3.1.2.5 The user can choose a substation group from the list.
- 3.3.1.2.6 The user can pick a number of SO and TO parties from the list. This list should NOT display external parties (946)

- 3.3.1.2.7 The user can enter a valid from and to date for the search
- 3.3.1.2.8 The user can choose to only show substations starting or ending within the date range or all those that intersect with the date range.
- 3.3.1.2.9 The user can choose to only show substations having 'Sheet' value equal to or starting with the specified value.
- 3.3.1.2.10 User presses the List button
- 3.3.1.2.11 The system displays the screen 1010302ListSubStns.
- 3.3.1.2.12 The system displays a list of substations in ascending Code order. The substations listed match the search criteria entered by the user.
- 3.3.1.2.13 The use case ends.

3.3.1.3 Special Requirements (Secure Access Privilege)

Accessible by ViewSubstations and EditSubstations security operations.

3.3.1.4 Pre-conditions

None

3.3.1.5 Post-conditions

None

3.3.1.6 Extension Points

Modify Substation Record.

3.3.2 Create Substation Record

3.3.2.1 Description

The user wants to add a new substation within the system.

3.3.2.2 Basic Flow

- 3.3.2.2.1 The system displays the screen 1010304AddEditSubStn
- 3.3.2.2.2 The system prompts the user to enter a unique substation **code**. The code cannot be the code from an existing substation group. The code should be in Upper case (1927).
- 3.3.2.2.3 The user must enter a **Description** for the substation.
- 3.3.2.2.4 The user must pick the **Owner** from the list.

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- 3.3.2.2.5 The user must enter a **Commissioning Date** in a standard valid format.
- 3.3.2.2.6 The user must pick a **licensed area** from the list.
- 3.3.2.2.7 The user must pick a **Voltage** from the list.
- 3.3.2.2.8 The user may enter a **Decommissioning Date**. If entered must be in a standard format.
- 3.3.2.2.9 The user may enter a 'Sheet' text. If entered, must be alphanumeric.
- 3.3.2.2.10 User presses the Save button.
- 3.3.2.2.11 Substation data is saved to the database. The date/time and user is saved as the last updated details. (see alternative flow 3.3.2.3)
- 3.3.2.2.12 User has option to pick an **SO Interested Party** from a list and add to the substation.
- 3.3.2.2.13 The user can repeat the above steps to add more parties. Each time the system saves the data to the database and refreshes the SO Interested Parties list to show the added parties.
- 3.3.2.2.14 User also has the option to choose delete from the list of selected SO Parties. The data is saved to the database and the list is refreshed after each party is deleted.
- 3.3.2.2.15 User has option to pick a **TO Interested Party** from a list and add to the substation.
- 3.3.2.2.16 The user can repeat the above steps to add more parties. Each time the system saves the data to the database and refreshes the TO Interested Parties list to show the added parties.
- 3.3.2.2.17 User also has the option to choose delete from the list of selected TO Parties. The data is saved to the database and the list is refreshed after each party is deleted.
- 3.3.2.2.18 User has option to pick a substation **Group** from a list and add to the substation.
- 3.3.2.2.19 The user can repeat the above steps to add more groups. Each time the system saves the data to the database and refreshes the groups list to show the added groups.
- 3.3.2.2.20 User also has the option to choose delete from the list of selected groups. The data is saved to the database and the list is refreshed after each group is deleted
- 3.3.2.2.21 The use case ends.

3.3.2.3 Alternative Flow

- 3.3.2.3.1 If the user inputs invalid substation code. If the code is already used by a substation then the system gives error message “Code already being used for a substation”. If the code is being used for a substation group then the system gives the error message “Code already being used for a substation group”.
- 3.3.2.3.2 If the commissioning date is in an invalid format then the system gives the error message “Commissioning Date in incorrect format”.
- 3.3.2.3.3 If the decommissioning date is in an invalid format then the system gives the error message “Decommissioning Date in incorrect format”.
- 3.3.2.3.4 If the decommissioning date is not after the commissioning date then the system gives the error message “Decommissioning date must be after commissioning date”.

3.3.2.4 Special Requirements (Secure Access Privilege)

Accessible by EditSubstations security operation.

3.3.2.5 Pre-conditions

None

3.3.2.6 Post-conditions

Substation record is successfully created and stored in database.

3.3.2.7 Extension Points

None.

3.3.3 Modify Substation Record**3.3.3.1 Description**

The user wants to amend the definition of a substation within the system. This action can only be performed by first selecting a substation from the list.

3.3.3.2 Basic Flow

- 3.3.3.2.1 The system displays the screen 1010304AddEditSubStn
- 3.3.3.2.2 The system populates the screen with the details of the substation.
- 3.3.3.2.3 The user may amend the **Description, Owner, Licensed Area, Voltage and Decommissioning Date** for the substation.

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- 3.3.3.2.4 User presses the Save button.
- 3.3.3.2.5 Substation data is saved to the database. The date/time and user is saved as the last updated details. (see alternative flow 3.3.3.3)
- 3.3.3.2.6 User has option to pick an **SO Interested Party** from a list and add to the substation.
- 3.3.3.2.7 The user can repeat the above steps to add more parties. Each time the system saves the data to the database and refreshes the SO Interested Parties list to show the added parties.
- 3.3.3.2.8 User also has the option to choose delete from the list of selected SO Parties. The data is saved to the database and the list is refreshed after each party is deleted.
- 3.3.3.2.9 User has option to pick a **TO Interested Party** from a list and add to the substation.
- 3.3.3.2.10 The user can repeat the above steps to add more parties. Each time the system saves the data to the database and refreshes the TO Interested Parties list to show the added parties.
- 3.3.3.2.11 User also has the option to choose delete from the list of selected TO Parties. The data is saved to the database and the list is refreshed after each party is deleted.
- 3.3.3.2.12 The user can specify whether to apply the SO or TO party changes to related request, planned and pending outages and if so must specify an effective date after which the changes will be applied.
- 3.3.3.2.13 Each time an SO or TO Interested party is added or removed from the substation the system will check whether the user has either specified not to apply the change to related outages or whether they have supplied a date after which the change should be applied. The change will be made to all Request, Pending and Planned outages with an end date (or window end date in the case of Requests) after the entered date. (see alternative flow 3.3.3.3.3)
- 3.3.3.2.14 User has option to pick a substation **Group** from a list and add to the substation.
- 3.3.3.2.15 The user can repeat the above steps to add more groups. Each time the system saves the data to the database and refreshes the groups list to show the added groups.
- 3.3.3.2.16 User also has the option to choose delete from the list of selected groups. The data is saved to the database and the list is refreshed after each group is deleted.

3.3.3.2.17 User is presented an option to delete the substation only if it is not referenced anywhere in Database. eg Associated with a Basic Outage. If only parties are associated then deletion of substation should also remove the data from the party link table. Similarly substation group should be allowed to be deleted only if it is not referenced with substation. If associated with Power station, then the relevant power station links should be deleted as well. (1037)

3.3.3.2.18 The use case ends.

3.3.3.3 Alternative Flow

3.3.3.3.1 If the decommissioning date is in an invalid format then the system gives the error message "Decommissioning Date in incorrect format".

3.3.3.3.2 If the decommissioning date is not after the commissioning date then the system gives the error message "Decommissioning date must be after commissioning date".

3.3.3.3.3 If the user has added or removed an interested party but not specified either not to apply the change to related outages or supplied a date to apply changes from then the system will display an error message.

3.3.3.4 Special Requirements (Secure Access Privilege)

Accessible by EditSubstations security operation.

3.3.3.5 Pre-conditions

Outage record must be queried in the screen 1010302ListSubStns.

3.3.3.6 Post-conditions

Substation record is successfully updated in database. If the SO and TO parties have been changed then any request, pending and planned outages that reference a basic outage linked to the substation may have had their SO and TO interested parties links changed.

3.3.3.7 Extension Points

None.

3.3.4 Maintain Substation Groups

3.3.4.1 Brief Description

The user wants to Add, Modify or Remove a substation group.

3.3.4.2 Basic Flow 1 (Add Substation Group)

- 3.3.4.2.1 The system displays screen 1010307AddEditSubStnGroup
- 3.3.4.2.2 The user must enter a **code** that has not been used on any substation or substation group.
- 3.3.4.2.3 The user must enter the group **description**
- 3.3.4.2.4 The user may check the **Active** checkbox
- 3.3.4.2.5 The user presses the Save button
- 3.3.4.2.6 The data is saved to the database including the last update date/time and user id. (see alternative flow 3.3.4.3.1)
- 3.3.4.2.7 User has option to enter a Substation and add to the group. This is achieved by entering the substation code and pressing the Add button or by pressing the Find button (which calls 1010301QuerySubStns screen), performing a query to find the required substation, selecting the substation (which causes the code to be pulled into the add Substation Group screen) and pressing the Add button.
- 3.3.4.2.8 The user can repeat the above steps to add more substations. Each time the system saves the data to the database and refreshes the Substations list to show the added substations.
- 3.3.4.2.9 User also has the option to choose delete from the list of selected substations. The data is saved to the database and the list is refreshed after each substation is deleted.
- 3.3.4.2.10 The use case ends.

3.3.4.3 Alternative Flow 1 (Add Substation Group)

- 3.3.4.3.1 If the code has been used on another substation group then the System displays error message “Code used on another substation group”. If the code has been used on a substation then the System displays error message “Code already used on a substation”.

3.3.4.4 Basic Flow 2 (Modify Substation Group)

- 3.3.4.4.1 The system displays screen 1010305ListSubStnGroups
- 3.3.4.4.2 The system displays a list of all substation group records.
- 3.3.4.4.3 The user selects a substation group for update.

- 3.3.4.4.4 The system displays screen 1010307AddEditSubStnGroup
- 3.3.4.4.5 The system populates the screen with the details of the substation group including listing the substations in the group.
- 3.3.4.4.6 The user may amend the group **description**
- 3.3.4.4.7 The user may check or uncheck the **Active** checkbox
- 3.3.4.4.8 The user presses the Save button
- 3.3.4.4.9 The data is saved to the database and the the last update date/time and user id are updated.
- 3.3.4.4.10 User has option to enter a Substation and add to the outage. This is achieved be entering the substation code and pressing the Add button or by pressing the Find button (which calls 1010301QuerySubStns screen), performing a query to find the required substation, selecting the substation (which causes the code to be pulled into the add Substation Group screen) and pressing the Add button.
- 3.3.4.4.11 The user can repeat the above steps to add more substations. Each time the system saves the data to the database and refreshes the Substations list to show the added substations.
- 3.3.4.4.12 User also has the option to choose delete from the list of selected substations. The data is saved to the database and the list is refreshed after each substation is deleted.
- 3.3.4.4.13 The use case ends.

3.3.4.5 Basic Flow 3 (Delete Substation Group)

- 3.3.4.5.1 The system displays screen 1010305ListSubStnGroups
- 3.3.4.5.2 The system displays a list of all substation group records.
- 3.3.4.5.3 The user selects a substation group for update.
- 3.3.4.5.4 The system displays screen 1010307AddEditSubStnGroup
- 3.3.4.5.5 The system populates the screen with the details of the substation group including listing the substations in the group.
- 3.3.4.5.6 The user presses the delete button.
- 3.3.4.5.7 The substation group is deleted from the database.
- 3.3.4.5.8 The use case ends.

3.3.4.6 Special Requirements (Secure Access Privilege)

Accessible by EditSubstations security operation.

3.3.4.7 Pre-conditions

For flows 2 and 3 a substation group must exist.

3.3.4.8 Post-conditions

Substation group records added, modified or deleted.

3.3.4.9 Extension Points

None.

3.4 Maintain Asset Records

3.4.1 List Assets

3.4.1.1 Brief Description

The user wants to list the assets in order to view or amend the data.

3.4.1.2 Basic Flow

- 3.4.1.2.1 The system displays the screen 1010401QueryAssets
- 3.4.1.2.2 The user can enter the starting characters of the asset code.
- 3.4.1.2.3 The user can choose the licensed area from the list
- 3.4.1.2.4 The user can choose the equipment owner from the list. If the user is SO, then all equipment owners for all licensed areas should be displayed in the list. If the user is a TO then all equipment owners in its license area should be listed. (1455)
- 3.4.1.2.5 The user can choose the asset type from the list.
- 3.4.1.2.6 The user can pick a number of SO and TO parties from the list. The Party drop down list should not include external parties. (557)
- 3.4.1.2.7 The user can enter a valid from and to date for the search
- 3.4.1.2.8 The user can enter Rating or Reference value for search.
- 3.4.1.2.9 The user can specify Substation or Sheet value for search.
- 3.4.1.2.10 The user can choose to only show assets starting or ending within the date range or all those that intersect with the date range.
- 3.4.1.2.11 User presses the List button

- 3.4.1.2.12 The system displays the screen 1010402ListAssets.
- 3.4.1.2.13 The system displays a list of assets in ascending Code order. The assets listed match the search criteria entered by the user.
- 3.4.1.2.14 The system displays the Add button if the user has EditAssets permission.
- 3.4.1.2.15 The use case ends.

3.4.1.3 Special Requirements (Secure Access Privilege)

Accessible by ViewAssets and EditAssets security operations.

3.4.1.4 Pre-conditions

None

3.4.1.5 Post-conditions

None

3.4.1.6 Extension Points

Modify Asset Record.

3.4.2 Create Asset Record

3.4.2.1 Description

The user wants to add a new asset within the system.

3.4.2.2 Basic Flow

- 3.4.2.2.1 The system displays the screen 1010404AddEditAsset
- 3.4.2.2.2 The system prompts the user to enter a unique asset **code**.
- 3.4.2.2.3 The user must enter a **Description** for the asset.
- 3.4.2.2.4 The user may enter an **Owner Specific code** for the asset if the equipment owner has their own reference.
- 3.4.2.2.5 The user must pick the **Asset Type** from the list.
- 3.4.2.2.6 The user must enter a **Commissioning Date** in a standard valid format.
- 3.4.2.2.7 The user must pick the **Owner** from the list.
- 3.4.2.2.8 The user may enter a **Decommissioning Date**. If entered must be in a standard format.

- 3.4.2.2.9 The user must pick a **licensed area** from the list.
- 3.4.2.2.10 The user must enter a valid substation code in the **Node 1** field. This is achieved by either directly entering the substation code into the field or by pressing the Find button (which calls 1010301QuerySubStns screen), performing a query to find the required substation and selecting the substation (which causes the code to be pulled into the add Substation Group screen).
- 3.4.2.2.11 The user may enter a second substation code in the **Node 2** field.
- 3.4.2.2.12 The user may enter a comment for the asset.
- 3.4.2.2.13 The user may enter a valid numeric value for 'Rating'.
- 3.4.2.2.14 The user may enter a unique alphanumeric text for 'Reference'.
- 3.4.2.2.15 User presses the Save button.
- 3.4.2.2.16 The asset data is saved to the database. The date/time and user is saved as the last updated details. (see alternative flows 3.4.2.3)
- 3.4.2.2.17 User has option to pick an **SO Interested Party** from a list and add to the asset.
- 3.4.2.2.18 The user can repeat the above steps to add more parties. Each time the system saves the data to the database and refreshes the SO Interested Parties list to show the added parties.
- 3.4.2.2.19 User also has the option to choose delete from the list of selected SO Parties. The data is saved to the database and the list is refreshed after each party is deleted.
- 3.4.2.2.20 User has option to pick a **TO Interested Party** from a list and add to the asset.
- 3.4.2.2.21 The user can repeat the above steps to add more parties. Each time the system saves the data to the database and refreshes the TO Interested Parties list to show the added parties.
- 3.4.2.2.22 User also has the option to choose delete from the list of selected TO Parties. The data is saved to the database and the list is refreshed after each party is deleted.
- 3.4.2.2.23 The use case ends.

3.4.2.3 Alternative Flow

- 3.4.2.3.1 If the code entered is already used by an asset then the system gives error message "Code already being used on another asset".

- 3.4.2.3.2 If the commissioning date is in an invalid format then the system gives the error message “Commissioning Date in incorrect format”.
- 3.4.2.3.3 If the decommissioning date is in an invalid format then the system gives the error message “Decommissioning Date in incorrect format”.
- 3.4.2.3.4 If the decommissioning date is not after the commissioning date then the system gives the error message “Decommissioning date must be after commissioning date”.
- 3.4.2.3.5 If the substation code values entered in the Node 1 or Node 2 fields are not the code for an existing substation then the system gives the error message “Invalid substation code”.

3.4.2.4 Special Requirements (Secure Access Privilege)

Accessible by EditAssets security operation.

3.4.2.5 Pre-conditions

None

3.4.2.6 Post-conditions

Asset record is successfully created and stored in database.

3.4.2.7 Extension Points

None.

3.4.3 Modify Asset Record

3.4.3.1 Description

The user wants to amend the definition of an Asset within the system. This action can only be performed by first selecting an asset from the asset list.

3.4.3.2 Basic Flow

- 3.4.3.2.1 The system displays the screen 1010404AddEditAsset
- 3.4.3.2.2 The system populates the screen with the details of the asset.
- 3.4.3.2.3 The user may amend the **Description, Owner Specific Code, Asset Type, Owner, Decommissioning Date, Licensed Area, reference, rating and the substation Nodes** for the asset.
- 3.4.3.2.4 User presses the Save button.

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- 3.4.3.2.5 Substation data is saved to the database. The date/time and user is saved as the last updated details. (see alternative flow 3.3.3.3)
- 3.4.3.2.6 User has option to pick an **SO Interested Party** from a list and add to the asset.
- 3.4.3.2.7 The user can repeat the above steps to add more parties. Each time the system saves the data to the database and refreshes the SO Interested Parties list to show the added parties.
- 3.4.3.2.8 User also has the option to choose delete from the list of selected SO Parties. The data is saved to the database and the list is refreshed after each party is deleted.
- 3.4.3.2.9 User has option to pick a **TO Interested Party** from a list and add to the asset.
- 3.4.3.2.10 The user can repeat the above steps to add more parties. Each time the system saves the data to the database and refreshes the TO Interested Parties list to show the added parties.
- 3.4.3.2.11 User also has the option to choose delete from the list of selected TO Parties. The data is saved to the database and the list is refreshed after each party is deleted.
- 3.4.3.2.12 The user can specify whether to apply the party changes to related request, planned and pending outages and if so must specify an effective date after which the changes will be applied.
- 3.4.3.2.13 Each time an SO or TO Interested party is added or removed from the asset the system will check whether the user has either specified not to apply the change to related outages or whether they have supplied a date after which the change should be applied. The change will be made to all Request, Pending and Planned outages with an end date (or window end date in the case of Requests) after the entered date.
- 3.4.3.2.14 The use case ends.

3.4.3.3 Alternative Flow

- 3.4.3.3.1 If the decommissioning date is in an invalid format then the system gives the error message "Decommissioning Date in incorrect format".
- 3.4.3.3.2 If the decommissioning date is not after the commissioning date then the system gives the error message "Decommissioning date must be after commissioning date".

3.4.3.3.3 If the substation code values entered in the Node 1 or Node 2 fields are not the code for an existing substation then the system gives the error message “Invalid substation code”.

3.4.3.4 Special Requirements (Secure Access Privilege)

Accessible by EditAssets security operation.

3.4.3.5 Pre-conditions

Outage record must be queried in the screen 1010402ListAssets.

3.4.3.6 Post-conditions

Asset record is successfully updated in database. If the SO and TO parties have been changed then any request, pending and planned outages that reference a basic outage linked to the asset may have had their SO and TO interested parties links changed.

3.4.3.7 Extension Points

None.

3.5 Maintain Reference Data

3.5.1 Maintain Asset Types

3.5.1.1 Brief Description

The administrator wants to define type definitions to be applied to assets.

3.5.1.2 Basic Flow 1 (Add Asset Type)

3.5.1.2.1 The system displays screen 1010501AssetTypes

3.5.1.2.2 The system displays a list of all asset types in ascending Type order.

3.5.1.2.3 The user must enter a unique asset Type name

3.5.1.2.4 The user must enter the Description of the asset type

3.5.1.2.5 The user may check the Available checkbox

3.5.1.2.6 The user presses the Add button

3.5.1.2.7 The system validates the data (see alternative flow 3.5.1.3).

3.5.1.2.8 The data is saved to the database including the last update date/time and user id.

3.5.1.2.9 The list of asset types is refreshed displaying the new record.

3.5.1.2.10 The use case ends.

3.5.1.3 Alternative Flow 1 (Add Asset Type)

3.5.1.3.1 If the asset type name is not unique then the system displays error message "Asset type name not unique."

3.5.1.4 Basic Flow 2 (Modify Asset Type)

3.5.1.4.1 The system displays screen 1010501AssetTypes

3.5.1.4.2 The system displays a list of all asset types in ascending Type order.

3.5.1.4.3 The user checks or unchecks the Available checkbox on one or more of the asset type records.

3.5.1.4.4 The user presses the Save button.

3.5.1.4.5 The data changes are saved to the database and the last update date/time and user id are updated.

3.5.1.4.6 The list of asset types is refreshed displaying the updated information.

3.5.1.4.7 The use case ends.

3.5.1.5 Basic Flow 3 (Delete Asset Type)

3.5.1.5.1 The system displays screen 1010501AssetTypes

3.5.1.5.2 The system displays a list of all asset types in ascending Type order.

3.5.1.5.3 The system displays a delete icon next to each asset type that is not being referenced by an asset record.

3.5.1.5.4 The user selects the delete icon next to one of the asset types.

3.5.1.5.5 The asset type is deleted from the database.

3.5.1.5.6 The list of asset types is refreshed.

3.5.1.5.7 The use case ends.

3.5.1.6 Special Requirements (Secure Access Privilege)

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

3.5.1.7 Pre-conditions

None

3.5.1.8 Post-conditions

Asset type records are added, modified or deleted.

3.5.1.9 Extension Points

None.

3.5.2 Maintain Plan Years**3.5.2.1 Brief Description**

The administrator wants to define plan years for each of the Transmission Owners.

3.5.2.2 Basic Flow 1 (Add Plan Year – SO User)

- 3.5.2.2.1 The system displays screen 1010502PlanYears
- 3.5.2.2.2 The system displays a list of all plan year records in descending year, increasing TO order.
- 3.5.2.2.3 The user must enter a Year
- 3.5.2.2.4 The user must choose a TO from the list
- 3.5.2.2.5 The user must enter a start date and end date for the year. Note: This definition of the start and end date is simply used to determine which plan years will be affected by any particular outage. The calculation of the engineering weeks will not be affected by the start date and end date entered in this screen.
- 3.5.2.2.6 The user must enter a Freeze Date and a Handover Date
- 3.5.2.2.7 The user presses the Add button.
- 3.5.2.2.8 The system validates the data (see alternative flow 3.5.2.3).
- 3.5.2.2.9 The data is saved to the database.
- 3.5.2.2.10 The list of plan years is refreshed displaying the new record.
- 3.5.2.2.11 The use case ends.

3.5.2.3 Alternative Flow 1 (Add Plan Year)

3.5.2.3.1 If the Year and TO combination is not unique then the system displays error message “This plan year is already defined for this TO”.

3.5.2.3.2 If the Start Date is before the End Date then the system displays an appropriate error message.

3.5.2.4 Basic Flow 2 (Add Plan Year – TO User)

3.5.2.4.1 This flow is identical to ‘Basic Flow 1 (Add Plan Year – SO User)’ except that the system only displays plan year records for the user’s licensed area and the list of TO codes will only contain the user’s own licensed area code.

3.5.2.5 Basic Flow 3 (Modify Plan Year – SO User)

3.5.2.5.1 The system displays screen 1010502PlanYears

3.5.2.5.2 The system displays a list of all plan year records in descending year, increasing TO order.

3.5.2.5.3 The user can modify one or more of the Start Date, End Date, Freeze Date or Handover Date fields.

3.5.2.5.4 The user presses the Save button.

3.5.2.5.5 The system validates the data (see alternative flow 3.5.2.6).

3.5.2.5.6 The data changes are saved to the database.

3.5.2.5.7 The list of plan years is refreshed displaying the updated information.

3.5.2.5.8 The use case ends.

3.5.2.6 Alternative Flow 3 (Modify Plan Year)

3.5.2.6.1 If the Start Date is before the End Date then the system displays an appropriate error message.

3.5.2.7 Basic Flow 4 (Modify Plan Year – TO User)

3.5.2.7.1 This flow is identical to ‘Basic Flow 3 (Modify Plan Year – SO User)’ except that the system only displays plan year records for the user’s licensed area.

3.5.2.8 Basic Flow 5 (Delete Plan Year – SO User)

3.5.2.8.1 The system displays screen 1010502PlanYears

- 3.5.2.8.2 The system displays a list of all plan year records in descending year, increasing TO order.
- 3.5.2.8.3 The system displays a delete icon next to each record where the plan year and TO combination is not being referenced by a request, pending or planned outage.
- 3.5.2.8.4 The user selects the delete icon next to one of the plan year records.
- 3.5.2.8.5 The record is deleted from the database.
- 3.5.2.8.6 The list of plan years is refreshed.
- 3.5.2.8.7 The use case ends.

3.5.2.9 Basic Flow 6 (Delete Plan Year – TO User)

- 3.5.2.9.1 This flow is identical to ‘Basic Flow 5 (Delete Plan Year – SO User)’ except that the system only displays plan year records for the user’s licensed area.

3.5.2.10 Special Requirements (Secure Access Privilege)

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

3.5.2.11 Pre-conditions

None

3.5.2.12 Post-conditions

Plan Year records are added, modified or deleted.

3.5.2.13 Extension Points

None.

3.5.3 Maintain Work Types

3.5.3.1 Brief Description

The administrator wants to define Work Type classifications for transmission outages.

3.5.3.2 Basic Flow 1 (Add Work Type)

- 3.5.3.2.1 The system displays screen 1010503DCDCodes

- 3.5.3.2.2 The system displays a list of all work types in ascending Code order.
- 3.5.3.2.3 The user must enter a Code
- 3.5.3.2.4 The user must enter the Description of the Work type
- 3.5.3.2.5 The user may check the Available checkbox
- 3.5.3.2.6 The user presses the Add button.
- 3.5.3.2.7 The system validates the data (see alternative flow 3.5.3.3).
- 3.5.3.2.8 The data is saved to the database including the last update date/time and user id.
- 3.5.3.2.9 The list of work types is refreshed displaying the new record.
- 3.5.3.2.10 The use case ends.

3.5.3.3 *Alternative Flow 1 (Add Work Type)*

- 3.5.3.3.1 If the Code is not unique then the system displays error message “Work Type Code not unique”.

3.5.3.4 *Basic Flow 2 (Modify Work Type)*

- 3.5.3.4.1 The system displays screen 1010503DCDCodes
- 3.5.3.4.2 The system displays a list of all work types in ascending Code order.
- 3.5.3.4.3 The user checks or unchecks the Available checkbox on one or more of the work type records.
- 3.5.3.4.4 The user presses the Save button.
- 3.5.3.4.5 The system validates the data.
- 3.5.3.4.6 The data changes are saved to the database and the last update date/time and user id are updated.
- 3.5.3.4.7 The list of work types is refreshed displaying the updated information.
- 3.5.3.4.8 The use case ends.

3.5.3.5 *Basic Flow 3 (Delete Work Type)*

- 3.5.3.5.1 The system displays screen 1010503DCDCodes
- 3.5.3.5.2 The system displays a list of all work types in ascending Code order.

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- 3.5.3.5.3 The system displays a delete icon next to each record where the work type is not being referenced by a request, pending or planned outage.
- 3.5.3.5.4 The user selects the delete icon next to one of the work type records.
- 3.5.3.5.5 The record is deleted from the database.
- 3.5.3.5.6 The list of work types is refreshed.
- 3.5.3.5.7 The use case ends.

3.5.3.6 Special Requirements (Secure Access Privilege)

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

3.5.3.7 Pre-conditions

None

3.5.3.8 Post-conditions

Work Type records are added, modified or deleted.

3.5.3.9 Extension Points

None.

3.5.4 Maintain Public Holidays**3.5.4.1 Brief Description**

The administrator wants to maintain the public holidays for each of the Transmission Owners.

3.5.4.2 Basic Flow 1 (Add Public Holiday – SO User)

- 3.5.4.2.1 The system displays screen 1010504PublicHolidays
- 3.5.4.2.2 The user may view the holidays for a year by selecting the year and pressing the View button.
- 3.5.4.2.3 The system will display a list of the holidays for the year in ascending date and TO order.
- 3.5.4.2.4 The user must enter the holiday Date
- 3.5.4.2.5 The user must enter the Description of the holiday

- 3.5.4.2.6 The user must select the TO which will be affected by the holiday
- 3.5.4.2.7 The user presses the Add button.
- 3.5.4.2.8 The system validates the data (see alternative flow 3.5.4.3).
- 3.5.4.2.9 The data is saved to the database including the last update date/time and user id.
- 3.5.4.2.10 If the new holiday record affects the list being displayed, if any, then the list of public holidays is refreshed displaying the new record.
- 3.5.4.2.11 The use case ends.

3.5.4.3 Alternative Flow 1 (Add Public Holiday)

- 3.5.4.3.1 If the Date is already on the database for the TO then the system displays the error message “Holiday already defined for the TO”.

3.5.4.4 Basic Flow 2 (Add Public Holiday – TO User)

- 3.5.4.4.1 This flow is identical to ‘Basic Flow 1 (Add Public Holiday - SO User)’ except that the system only displays public holiday records for the user’s licensed area and the list of TO codes will only contain the user’s own licensed area code.

3.5.4.5 Basic Flow 3 (Delete Public Holiday – SO User)

- 3.5.4.5.1 The system displays screen 1010504PublicHolidays
- 3.5.4.5.2 The user must view the holidays for the required year by selecting the year and pressing the View button.
- 3.5.4.5.3 The system will display a list of the holidays for the year in ascending date and TO order.
- 3.5.4.5.4 The system displays a delete icon next to each record
- 3.5.4.5.5 The user selects the delete icon next to one of the public holiday records.
- 3.5.4.5.6 The record is deleted from the database.
- 3.5.4.5.7 The list of public holidays is refreshed.
- 3.5.4.5.8 The use case ends.

3.5.4.6 Basic Flow 4 (Delete Public Holiday – TO User)

- 3.5.4.6.1 This flow is identical to ‘Basic Flow 3 (Delete Public Holiday - SO User)’ except that the system only displays public holiday records for the user’s licensed area.

3.5.4.7 Special Requirements (Secure Access Privilege)

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

3.5.4.8 Pre-conditions

None

3.5.4.9 Post-conditions

Public holiday records are added or deleted.

3.5.4.10 Extension Points

None.

3.5.5 Maintain SO Parties**3.5.5.1 Brief Description**

The administrator wants to maintain System Operator Party details.

3.5.5.2 Basic Flow 1 (Add SO Party)

- 3.5.5.2.1 The system displays screen 1010505SOParties
- 3.5.5.2.2 The system displays a list of all SO Parties in ascending Party order.
- 3.5.5.2.3 The user must enter a Party name
- 3.5.5.2.4 The user must enter the Description of the party
- 3.5.5.2.5 The user may check the Available checkbox
- 3.5.5.2.6 The user presses the Add button.
- 3.5.5.2.7 The system validates the data (see alternative flow 3.5.5.3).
- 3.5.5.2.8 The data is saved to the database including the last update date/time and user id.
- 3.5.5.2.9 The list of SO Parties is refreshed displaying the new record.
- 3.5.5.2.10 The use case ends.

3.5.5.3 Alternative Flow 1 (Add SO Party)

- 3.5.5.3.1 If the Party name is not unique then the system displays error message "Party name not unique".

3.5.5.4 Basic Flow 2 (Modify SO Party)

- 3.5.5.4.1 The system displays screen 1010505SOParties
- 3.5.5.4.2 The system displays a list of all SO Parties in ascending Party order.
- 3.5.5.4.3 The user checks or unchecks the Available checkbox on one or more of the party records.
- 3.5.5.4.4 The user presses the Save button.
- 3.5.5.4.5 The system validates the data.
- 3.5.5.4.6 The data changes are saved to the database and the last update date/time and user id are updated.
- 3.5.5.4.7 The list of SO parties is refreshed displaying the updated information.
- 3.5.5.4.8 The use case ends.

3.5.5.5 Basic Flow 3 (Delete SO Party)

- 3.5.5.5.1 The system displays screen 1010505SOParties
- 3.5.5.5.2 The system displays a list of all SO Parties in ascending Party order.
- 3.5.5.5.3 The system displays a delete icon next to each record where the party is not being referenced by any basic, request, pending or planned outage or being used on a TOGA user record.
- 3.5.5.5.4 The user selects the delete icon next to one of the SO party records.
- 3.5.5.5.5 The record is deleted from the database.
- 3.5.5.5.6 The list of SO parties is refreshed.
- 3.5.5.5.7 The use case ends.

3.5.5.6 Special Requirements (Secure Access Privilege)

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

3.5.5.7 Pre-conditions

None

3.5.5.8 Post-conditions

SO party records are added, modified or deleted.

3.5.5.9 Extension Points

None.

3.5.6 Maintain TO Parties

3.5.6.1 Brief Description

The administrator wants to maintain Transmission Owner Party details.

3.5.6.2 Basic Flow 1 (Add TO Party – SO User)

- 3.5.6.2.1 The system displays screen 1010506TOParties
- 3.5.6.2.2 The system displays a list of all TO Parties in ascending Party order.
- 3.5.6.2.3 The user must enter a Party name
- 3.5.6.2.4 The user must enter the Description of the party
- 3.5.6.2.5 The user must select from the list the TO which the party will belong to.
- 3.5.6.2.6 The user may check the Available checkbox
- 3.5.6.2.7 The user presses the Add button.
- 3.5.6.2.8 The system validates the data (see alternative flow 3.5.6.3).
- 3.5.6.2.9 The data is saved to the database including the last update date/time and user id.
- 3.5.6.2.10 The list of TO Parties is refreshed displaying the new record.
- 3.5.6.2.11 The use case ends.

3.5.6.3 Alternative Flow 1 (Add TO Party – SO User)

- 3.5.6.3.1 If the Party name is not unique for the TO then the system displays error message “Party name not unique for this TO”.

3.5.6.4 Basic Flow 2 (Add TO Party – TO User)

- 3.5.6.4.1 The system displays screen 1010506TOParties
- 3.5.6.4.2 The system displays a list of all TO Parties in the user’s licensed area, in ascending Party order.
- 3.5.6.4.3 The user must enter a Party name

- 3.5.6.4.4 The user must enter the Description of the party
- 3.5.6.4.5 The user must select from the list the TO which the party will belong to. The list will only contain the user's own licensed area code.
- 3.5.6.4.6 The user may check the Available checkbox
- 3.5.6.4.7 The user presses the Add button.
- 3.5.6.4.8 The system validates the data (see alternative flow 3.5.6.3).
- 3.5.6.4.9 The data is saved to the database including the last update date/time and user id.
- 3.5.6.4.10 The list of TO Parties is refreshed displaying the new record.
- 3.5.6.4.11 The use case ends.

3.5.6.5 Basic Flow 3 (Modify TO Party – SO User)

- 3.5.6.5.1 The system displays screen 1010506TOParties
- 3.5.6.5.2 The system displays a list of all TO Parties in ascending Party order.
- 3.5.6.5.3 The user checks or unchecks the Available checkbox on one or more of the party records.
- 3.5.6.5.4 The user presses the Save button.
- 3.5.6.5.5 The system validates the data.
- 3.5.6.5.6 The data changes are saved to the database and the last update date/time and user id are updated.
- 3.5.6.5.7 The list of TO parties is refreshed displaying the updated information.
- 3.5.6.5.8 The use case ends.

3.5.6.6 Basic Flow 4 (Modify TO Party – TO User)

- 3.5.6.6.1 This flow is identical to 'Basic Flow 3 (Modify TO Party – SO User)' except that the system only displays TO parties for the user's licensed area.

3.5.6.7 Basic Flow 5 (Delete TO Party – SO User)

- 3.5.6.7.1 The system displays screen 1010506TOParties
- 3.5.6.7.2 The system displays a list of all TO Parties in ascending Party order.

- 3.5.6.7.3 The system displays a delete icon next to each record where the party is not being referenced by any basic, request, pending or planned outage or being used on a TOGA user record.
- 3.5.6.7.4 The user selects the delete icon next to one of the TO party records.
- 3.5.6.7.5 The record is deleted from the database.
- 3.5.6.7.6 The list of TO parties is refreshed.
- 3.5.6.7.7 The use case ends.

3.5.6.8 Basic Flow 6 (Delete TO Party – TO User)

- 3.5.6.8.1 This flow is identical to 'Basic Flow 4 (Delete TO Party – SO User)' except that the system only displays TO parties for the user's licensed area.

3.5.6.9 Special Requirements (Secure Access Privilege)

Accessible by 'View TO Parties' (but in view only mode) and 'Edit TO Parties' security operations.

3.5.6.10 Pre-conditions

None

3.5.6.11 Post-conditions

TO party records are added, modified or deleted.

3.5.6.12 Extension Points

None.

3.5.7 Maintain Change Categories

3.5.7.1 Brief Description

The administrator needs to add or modify a Change code or description. The administrator may also flag the code as 'no longer available for use'.

3.5.7.2 Basic Flow 1 (Add Change Code – TO User)

- 3.5.7.2.1 The system displays screen 1010507ChangeCodes.
- 3.5.7.2.2 The system displays a list of all change codes which have a Used By matching the users TO value.

- 3.5.7.2.3 The user must enter a unique Change **code**
- 3.5.7.2.4 The user must enter the Change code **description**
- 3.5.7.2.5 The user may check the **Availability** checkbox
- 3.5.7.2.6 The user presses the Add button
- 3.5.7.2.7 The data is saved to the database including the last update date/time and user id. (see alternative flow 3.2.1.3.1)
- 3.5.7.2.8 The list of change codes is refreshed displaying the new record.
- 3.5.7.2.9 The use case ends.

3.5.7.3 Alternative Flow 1 (Add Change Code – TO User)

- 3.5.7.3.1 System displays error message “Change Code not unique”.

3.5.7.4 Basic Flow 2 (Add Change Code – SO User)

- 3.5.7.4.1 The system displays screen 1010507ChangeCodes
- 3.5.7.4.2 The system displays a list of all change codes regardless of the Used By value.
- 3.5.7.4.3 The user must enter a unique change **code** (see alternative flow 3.2.1.5.1)
- 3.5.7.4.4 The user must enter the change code **description**
- 3.5.7.4.5 The user may check the **Availability** checkbox,
- 3.5.7.4.6 The user must select the **Used By** value from the list.
- 3.5.7.4.7 The user presses the Add button
- 3.5.7.4.8 The data is saved to the database including the last update date/time and user id.
- 3.5.7.4.9 The list of change codes is refreshed displaying the new record.
- 3.5.7.4.10 The use case ends.

3.5.7.5 Alternative Flow 2 (Add Change Code – SO User)

- 3.5.7.5.1 System displays error message “Change Code not unique”. The use case continues at step 3.2.1.4.3.

3.5.7.6 Basic Flow 3 (Modify Change Code)

- 3.5.7.6.1 The system displays screen 1010507ChangeCodes
- 3.5.7.6.2 The system displays a list of cahnge codes viewable by the user.

- 3.5.7.6.3 The user checks or unchecks the **available** checkbox on one or more of the change codes.
- 3.5.7.6.4 The user presses the Save button.
- 3.5.7.6.5 The data changes are saved to the database and the last update date/time and user id are updated.
- 3.5.7.6.6 The list of change codes is refreshed displaying the updated information.
- 3.5.7.6.7 The use case ends.

3.5.7.7 Basic Flow 4 (Delete Change Code)

- 3.5.7.7.1 The system displays screen 1010507ChangeCodes
- 3.5.7.7.2 The system displays a list of change codes viewable by the user.
- 3.5.7.7.3 The system will display a delete icon next to each change code record which is not being referenced by any basic, request, pending or planned outages.
- 3.5.7.7.4 The user selects the delete icon next to one of the change codes.
- 3.5.7.7.5 The change code record is deleted from the database.
- 3.5.7.7.6 The list of change codes is refreshed.
- 3.5.7.7.7 The use case ends.

3.5.7.8 Special Requirements (Secure Access Privilege)

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

3.5.7.9 Pre-conditions

None

3.5.7.10 Post-conditions

Change codes records added, modified or deleted.

3.5.7.11 Extension Points

None.

3.6 Maintain Unwise Asset Combinations

3.6.1.1 Brief Description

The administrator wants to define groups of assets that should not be taken out of service at the same time.

3.6.1.2 Basic Flow 1 (Add Unwise Asset Combination)

- 3.6.1.2.1 The system displays screen 1010601UnwiseAssetCombos
- 3.6.1.2.2 The system displays a list of all asset groups, displaying the unwise groups before the non-unwise groups, the applied records before non-applied records and in Name order within these groupings.
- 3.6.1.2.3 The user must enter a unique asset group **Name**
- 3.6.1.2.4 The user must enter the group **description**
- 3.6.1.2.5 The user must check the **Unwise Group** checkbox to indicate that this is an unwise asset combination group.
- 3.6.1.2.6 The user may check the **Apply** checkbox
- 3.6.1.2.7 The user must enter a list of the assets to be included in the group. The list must be valid asset ids separated by commas. To assist the user in the task the 'Find' button can be used to call the 1010401QueryAssets screen allowing the user to query an asset and then select it. Selecting the asset will cause the id to be appended to the end of the Assets list.
- 3.6.1.2.8 The user must enter a warning message.
- 3.6.1.2.9 The user presses the Add button
- 3.6.1.2.10 The data is saved to the database including the last update date/time and user id. (see alternative flow 3.6.1.3)
- 3.6.1.2.11 The list of asset groups is refreshed displaying the new record.
- 3.6.1.2.12 The use case ends.

3.6.1.3 Alternative Flow 1 (Add Unwise Asset Combination)

- 3.6.1.3.1 If the group name is not unique then the system displays error message "Group name not unique."
- 3.6.1.3.2 If the asset list is not in correct format (comma separated string) then system displays error message "Asset list not in correct format".
- 3.6.1.3.3 If the asset list contains non valid asset ids the system displays error message "Invalid asset id".
- 3.6.1.3.4 If the asset list contains more than the 'Maximum number of assets in an unwise group' (as defined by the system parameters) the

system displays error message “Maximum number of assets exceeded for an unwise asset combination group”.

- 3.6.1.3.5 If there are already the ‘Maximum number of unwise asset groups’ (as defined by the system parameter) then system displays error message “Maximum number of unwise asset combination groups already defined”.

3.6.1.4 Basic Flow 2 (Modify Unwise Asset Combination)

- 3.6.1.4.1 The system displays screen 1010601UnwiseAssetCombos
- 3.6.1.4.2 The system displays a list of all asset groups, displaying the unwise groups before the non-unwise groups, the applied records before non-applied records and in Name order within these groupings.
- 3.6.1.4.3 The user checks or unchecks the **apply** checkbox on one or more of the asset groups.
- 3.6.1.4.4 The user presses the Save button.
- 3.6.1.4.5 The data changes are saved to the database and the last update date/time and user id are updated.
- 3.6.1.4.6 The list of asset groups is refreshed displaying the updated information.
- 3.6.1.4.7 The use case ends.

3.6.1.5 Basic Flow 3 (Delete Unwise Asset Combination)

- 3.6.1.5.1 The system displays screen 1010601UnwiseAssetCombos
- 3.6.1.5.2 The system displays a list of all asset groups, displaying the unwise groups before the non-unwise groups, the applied records before non-applied records and in Name order within these groupings.
- 3.6.1.5.3 The user selects the delete icon next to one of the unwise asset combination groups.
- 3.6.1.5.4 The group is deleted from the database.
- 3.6.1.5.5 The list of asset groups is refreshed.
- 3.6.1.5.6 The use case ends.

3.6.1.6 Special Requirements (Secure Access Privilege)

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

3.6.1.7 Pre-conditions

None

3.6.1.8 Post-conditions

Unwise asset combination groups added, modified or deleted.

3.6.1.9 Extension Points

None.

3.7 Upload Outage File**3.7.1.1 Brief Description**

The user uploads a flat delimited file of outage requests into TOGA. The records in the file may be either amendments to existing request outages or will be to add a new request outage. The new outage will be either to add, update or cancel a planned outage, or to create a comment entry. The inclusion of DNO outages in this file will be implemented in phase 2.

3.7.1.2 Basic Flow

- 3.7.1.2.1 The system prompts the user to specify the file to upload.
- 3.7.1.2.2 The user either enters the file name or uses 'Browse' to locate the file on the local machine.
- 3.7.1.2.3 The user presses the submit button.
- 3.7.1.2.4 The system reads the file one line at a time and validates the format and content. (See the 'TOGA SYSTEM Interface Specification for the Exchange of Grid Code Data' for more details)
- 3.7.1.2.5 The system performs business rule related validation by calling use case **Perform Business Checks 3.8**
- 3.7.1.2.6 If any of the records in the file fail the validation then the file is rejected by calling use case **Reject Outage Entry 3.9**
- 3.7.1.2.7 If all the records in the file pass the validation then each record is assigned a batch sequence number, the data is committed to the database and the system informs the user of the success and displays the batch sequence number on the screen.
- 3.7.1.2.8 The use case ends.

3.7.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Request Outages' security operation.

3.7.1.4 Pre-conditions

None

3.7.1.5 Post-conditions

Either new outages are created or the user is informed of the reason for failure.

3.7.1.6 Extension Points

Perform Business Checks 3.8

Reject Outage Entry 3.9

3.8 Perform Business Checks**3.8.1.1 Brief Description**

Whether a Request outage is being submitted from the screen or from an upload file then the same business specific validation rules must be applied.

3.8.1.2 Basic Flow

- 3.8.1.2.1 The system checks that there is not another active request outage associated with the same planned outage. If there is then the new outage is invalid.
- 3.8.1.2.2 If the outage occurs in the winter and has an ERTS value (either day or night) > 24 then flag the outage as a Winter ERTS Risk. Note: The values for 'start week of winter', 'end week of winter' and 'number of hours of ERTS to trigger a risk' are all controlled via system parameters.
- 3.8.1.2.3 If the request outage is being submitted from an upload file then no other checks are performed and the user case ends here.
- 3.8.1.2.4 If the user is an SO user, and the outage has the nationally secure field checked then the system checks that the assets associated with the request outage are not in the same unwise asset combination group as other assets on other outages crossing the same time period. If they are then display the appropriate warning message.
- 3.8.1.2.5 If outage links exist for the planned outage number then check if either set of the proposed request dates (not the window dates)

infringe one or more of the links. If so then display a warning message stating the outage numbers for the links in violation.

3.8.1.2.6 The use case ends.

3.8.1.3 Alternative Flow

3.8.1.3.1 If any of the records in the file fail the validation then the file is rejected by calling use case **Reject Outage Entry 3.9**

3.8.1.4 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Request Outages' security operation.

3.8.1.5 Pre-conditions

Request Outage record is being added or modified.

3.8.1.6 Post-conditions

Outage is deemed to be valid or invalid.

3.8.1.7 Extension Points

Reject Outage Entry 3.9

3.9 Reject Outage Entry

3.9.1.1 Brief Description

If a request outage in a submitted file fails validation then the file is rejected.

3.9.1.2 Basic Flow

3.9.1.2.1 The system displays on the screen the line number of the record failing validation and the reason for the failure.

3.9.1.2.2 The use case ends.

3.9.1.3 Alternative Flow

3.9.1.4 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Request Outages' security operation.

3.9.1.5 Pre-conditions

A file of request outages, including at least one invalid record, is being submitted to TOGA.

3.9.1.6 Post-conditions

The file is rejected and no changes are written to the database.

3.9.1.7 Extension Points

None

3.10 Upload External System Outages

This use case is identical to Upload Outage File 3.7

3.11 Create Outage Request**3.11.1.1 Brief Description**

This use case is used to add a new request outage to TOGA. The request can be for a new outage to be placed in the plan, for a requested change to an existing planned outage or start the process of cancelling a planned outage.

3.11.1.2 Basic Flow (Create Addition Request Outage – TO user)

- 3.11.1.2.1 The system displays the screen 10205AddRequestOutage.
- 3.11.1.2.2 The user can choose the plan year for the outage from the list.
- 3.11.1.2.3 The user must choose 'Basic' and enter the reference code for a basic outage in the user's licensed area. If the user does not know the reference code then they can press the 'Find' button in order to access the Query Basic Outages screen.
- 3.11.1.2.4 The user selects the 'Create Request for New Outage' option and presses the 'Create Outage' button.
- 3.11.1.2.5 The system displays the screen 10210EditRequestOutage in Add mode. The Delete and Copy buttons are not displayed when the user is adding an outage.
- 3.11.1.2.6 The status is set to initial. The Circuit/Description, TO, Demand at Risk, SO impact, Operational Remarks, TO parties, SO parties, external parties, external party comments, substations, assets, free codes, tower references and equipment owner fields are populated from the Basic Outage record.
- 3.11.1.2.7 The user can change the status to any of the values defined by their role.
- 3.11.1.2.8 The user cannot change the plan year.

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- 3.11.1.2.9 The user can enter a proposed outage number. This must not be the number of an existing planned outage.
- 3.11.1.2.10 The system will display the request outage type – in this case it will display 'Addition'.
- 3.11.1.2.11 The system will populate the list of basic outage references as those in the same group as the current basic outage.
- 3.11.1.2.12 When creating a new request outage the user will not be able to change the basic outage reference and so the system will not enable the Basic Outage Ref list or button.
- 3.11.1.2.13 The Circuit/Description field is read only.
- 3.11.1.2.14 The user may add an additional description.
- 3.11.1.2.15 The user can enter a user specific reference for the record.
- 3.11.1.2.16 The user may identify the outage as a fault by checking the fault checkbox.
- 3.11.1.2.17 The user must specify the type of fault.
- 3.11.1.2.18 The user must enter the Work Involved field.
- 3.11.1.2.19 The user must specify whether the outage is daily or continuous (C/D), whether the main circuit is in service and indicate the TO significance.
- 3.11.1.2.20 The user must enter an ERTS day value, and may enter an ERTS night value. If the user specifies that the outage is continuous then the user will be forced to enter an ERTS night value.
- 3.11.1.2.21 The user may enter Eng/TO Comments.
- 3.11.1.2.22 The user may indicate the Rating Adjustment percentage of the asset under the outage.
- 3.11.1.2.23 The user may enter an APA time.
- 3.11.1.2.24 The user may enter a PFW time.
- 3.11.1.2.25 The user may select one or more work types for the outage by selecting multiple Work Types in the list.
- 3.11.1.2.26 The user must either enter proposed start end dates (1), or a duration and window start and end dates.
- 3.11.1.2.27 The user may enter the start and end dates in either standard date format (DD/MM/YYYY) or in engineering day/week format (e.g. 15.2W04)

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- 3.11.1.2.28 The user may add a second set of proposed dates.
- 3.11.1.2.29 If any of the proposed dates are public holidays, for the TO, then the user will be warned upon saving the data.
- 3.11.1.2.30 The user may set the proposed dates as either being selected, not selected or in question.
- 3.11.1.2.31 The batch upload seq field is only relevant when editing/viewing batch uploaded requests.
- 3.11.1.2.32 The TO lead planner will default to the current user's id, if the current user is a TO planner, but can be changed to any value from the list (any defined TO planner).
- 3.11.1.2.33 The user may indicate that commission data is required for the outage.
- 3.11.1.2.34 The user may enter a change description for the Request. This field is not required if the change is before the freeze date for the plan year.
- 3.11.1.2.35 The Requesting Party field will default to the TO user's own party but can be changed to any party from the list (any TO party from the outage's licensed area, any external party from the outage's licensed area or a SO party).
- 3.11.1.2.36 The user may pick a Change Code from the list. This field is not required if the change is before the freeze date for the plan year.
- 3.11.1.2.37 The user presses the Save button. See alternative flow 3.11.1.3
- 3.11.1.2.38 System performs higher level validation by calling use case Perform Business Checks 3.8
- 3.11.1.2.39 If either of the proposed (but not selected=N) start dates are on or before the current date and the outage is not flagged as a fault then the system will warn the user that the outage may be a fault.
- 3.11.1.2.40 The data is validated and saved to the database.
- 3.11.1.2.41 If the basic outage is a comment outage then the request outage will be of type 'Comment' otherwise it will be a 'Standard' request outage.
- 3.11.1.2.42 The system generates the next Request Outage number from the sequence and assigns it to the new record.
- 3.11.1.2.43 The system records details of the last update date and user id.
- 3.11.1.2.44 The system records the current system date/time in the 'last time the status was changed' field.

- 3.11.1.2.45 The free codes/parties and risk details buttons will not be available until the user successfully saves the new record to the database. The user may now enter the free code/parties information or the risk details information (described in the Modify Outage Request use case 3.15.1.1)
- 3.11.1.2.46 The use case ends.

3.11.1.3 Alternative Flow 1 (Create Addition Request Outage – TO user)

- 3.11.1.3.1 The user tries to save the record when one of the mandatory fields has not been entered. The system gives an appropriate error message.
- 3.11.1.3.2 The user tries to save the record when one of the fields has an invalid value. The system gives an appropriate error message.
- 3.11.1.3.3 The user tries to save the record when the ERTS night field is not entered and the outage is continuous. The system gives an appropriate error message.
- 3.11.1.3.4 The user tries to save the record where the Rating Adjustment value has been entered but more than one asset is covered by the outage. The system gives an appropriate warning message.
- 3.11.1.3.5 The user tries to save a record with a Rating adjustment entered but the outage is not flagged as an In service outage. The system gives an appropriate warning message.
- 3.11.1.3.6 The freeze date has been passed for any plan year affected by the outage but the user has not entered the change description and change code fields. The system displays an appropriate error message.

3.11.1.4 Basic Flow 2 (Create Addition Request Outage – SO user)

- 3.11.1.4.1 This flow is identical to the flow for a TO user adding an Addition Request Outage (see section 3.11.1.2 above) except for the following cases:
- 3.11.1.4.2 The user can set change Requesting Party field to any party from the list (any TO party from the outage's licensed area, any external party from the outage's licensed area or a SO party).

3.11.1.5 Basic Flow 3 (Copy a Request Outage)

- 3.11.1.5.1 The user selects an outage in the request outage list (see use case List Outage Requests 3.12 for details).

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- 3.11.1.5.2 If the outage is an Addition outage then the system displays the 'Copy' button.
- 3.11.1.5.3 The user selects the 'Copy' button.
- 3.11.1.5.4 The system copies the request to a new record but blanks out the Request number, the Outage number and the SO Comments. The type will be displayed as 'Addition'.
- 3.11.1.5.5 The system populates the list of basic outage references as those in the same group as the current basic outage.
- 3.11.1.5.6 The user can change the status to any of the values defined by their role.
- 3.11.1.5.7 The user can enter a proposed outage number. This must not be the number of an existing planned outage.
- 3.11.1.5.8 If the user wants to change the basic outage then the user may pick a basic reference code from the list and press the Update button. This will cause the fields listed in section 3.11.1.2.5 to be re-populated from the new basic outage reference. Any parties that have been manually added to the (copied) request outage will be retained. Also if the old and new basic outages have the same external party then the external party comments will be retained.
- 3.11.1.5.9 The use case now continues exactly the same as Basic Flow 1 from step 3.11.1.2.13

3.11.1.6 Basic Flow 4 (Create Update Request Outage)

- 3.11.1.6.1 The system displays the screen 10205AddRequestOutage.
- 3.11.1.6.2 The user must choose the 'Planned' option and enter the number of a planned outage in the user's licensed area. If the user does not know the reference code then they can press the 'Find' button in order to access the Query Planned Outages screen.
- 3.11.1.6.3 The user selects the 'Create Request to Update Outage' and presses the 'Create Outage' button. See alternative flow 3.11.1.7.1
- 3.11.1.6.4 The system displays the screen 10210EditRequestOutage in Add mode. The Delete and Copy buttons are not displayed when the user is adding an outage.
- 3.11.1.6.5 The fields on the new request outage are pre-filled from the planned outage except for the request number (which is blank), the status (which is set to initial), and the type (which is set to 'Update'). The Eng/TO Comments, the proposed dates, the change details, the

batch upload seq and the SO Request Comments are all set to blank.

- 3.11.1.6.6 The user can change the status to any of the values defined by their role.
- 3.11.1.6.7 The system displays the Outage Number of the existing planned outage. The user cannot change this value.
- 3.11.1.6.8 The use case now continues exactly the same as Basic Flow 3 from step 3.11.1.5.8

3.11.1.7 *Alternative Flow 4 (Create Update Request Outage)*

- 3.11.1.7.1 The planned outage already has an active request or pending outage associated with it. The system displays an error message.
- 3.11.1.7.2 The use case ends.

3.11.1.8 *Basic Flow 5 (Create Cancellation Request Outage)*

- 3.11.1.8.1 The system displays the screen 10205AddRequestOutage.
- 3.11.1.8.2 The user must enter choose the 'Planned' option and enter the number of a planned outage in the user's licensed area. If the user does not know the reference code then they can press the 'Find' button in order to access the Query Planned Outages screen.
- 3.11.1.8.3 The user chooses the 'Create Request to Cancel Outage' option and presses the 'Create Outage' button. See alternative flow 3.11.1.9.1
- 3.11.1.8.4 The system displays the screen 10210EditRequestOutage in Add mode. The Delete and Copy buttons are not displayed when the user is adding an outage.
- 3.11.1.8.5 The fields on the new request outage are pre-filled from the planned outage except for the request number (which is blank), the status (which is set to initial), and the type (which is set to 'Cancel'). The Eng/TO Comments, the proposed dates, the change details, the batch upload seq and the SO Request Comments are all set to blank.
- 3.11.1.8.6 The system displays the Outage Number of the existing planned outage. The user cannot change this value.
- 3.11.1.8.7 The user can change the status to any of the values defined by their role.
- 3.11.1.8.8 The user must enter a comment in the Eng/TO Comments field.

- 3.11.1.8.9 The user may enter an SO Request Comment.
- 3.11.1.8.10 All of the fields except for status and Eng/TO Comments and SO Request Comments are display only.
- 3.11.1.8.11 The user presses the Save button. The new request is saved to the database. The system generates a new request outage number.

3.11.1.9 Alternative Flow 5 (Create Cancellation Request Outage)

- 3.11.1.9.1 The planned outage already has an active request or pending outage associated with it. The system displays an error message.
- 3.11.1.9.2 The use case ends.

3.11.1.10 Basic Flow 6 (Create Comment Request Outage)

- 3.11.1.10.1 This flow is identical to the 'Create Addition Request Outage – TO User' flow (see 3.11.1.2) except that the user chooses a comment basic outage.

3.11.1.11 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Request Outages' security operation.

3.11.1.12 Pre-conditions

The date (PFW) should default to the start date of the outage. Similarly for the APA date. User can override the default and set PFW (or APA) date different than Start date. Note if the outage start date is changed then these dates should be automatically changed. In the case of over writing the default date, warning is displayed: "PFW or APA date was different to the original start date but is now the same as the new start date. Please amend if necessary" (1835)

3.11.1.13 Post-conditions

Request outage written to the database.

3.11.1.14 Extension Points

Perform Business Checks 3.8

3.12 List Outage Requests

3.12.1.1 Brief Description

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The use case is triggered when the user wants to display a specific list of outages in order to:

- view an outage,
- amend an outage,
- delete/cancel an outage,
- approve or decline the request.

3.12.1.2 Basic Flow

- 3.12.1.2.1 The system displays the screen 10216QueryRequestOutages
- 3.12.1.2.2 The user can enter the starting characters of the request number.
- 3.12.1.2.3 The user can choose the plan year from the list
- 3.12.1.2.4 The user can enter the starting characters of a Outage number so that only requests concerned with the specific planned outages are displayed.
- 3.12.1.2.5 The user can choose a Lead Planner from the list of SO and TO Lead Planners.
- 3.12.1.2.6 The user can enter the starting characters of a basic outage reference code so that only requests concerned with the specified basic outages are selected.
- 3.12.1.2.7 The user can choose whether to view fault outages only.
- 3.12.1.2.8 The user can choose the licensed area from the list
- 3.12.1.2.9 The user can choose the status from the list.
- 3.12.1.2.10 The user can select one or more parties
- 3.12.1.2.11 The user can enter the batch upload sequence number.
- 3.12.1.2.12 The user can enter a valid from and to date for the search
- 3.12.1.2.13 The user can choose to only show Request Outages starting or ending within the date range or all those that intersect with the date range. Where an outage has two date ranges then the outage will be listed if either of the date ranges crosses the date range. If the outage has no proposed dates then the request will be included if the window dates cross the date range. Weekend dates will be displayed with a yellow background and public holidays, for the TO, in blue.
- 3.12.1.2.14 The user can choose to search for outages referencing a particular substation by choosing the 'Substation' option, entering a valid

substation code and pressing the Add button. The substation will be added to the list of substations on the screen. If the user does not know the substation code they can use the 'Find' button to allow them to search for the substation. This will bring back a substation code and automatically add it to the list.

- 3.12.1.2.15 Alternatively the user may enter a substation group. This is achieved by selecting the 'Group' option, entering a substation group code and pressing the Add button. The substation group code is added to the substation list. If the user does not know the substation group code they can use the Find button which displays the substation group list screen for where the user may pick a substation group and the system will add it to the substation list.
- 3.12.1.2.16 The user can choose whether the outages should contain all the listed substations or at least one of the substations.
- 3.12.1.2.17 The user may choose to only view request outages that have changed status since a particular date.
- 3.12.1.2.18 The user can specify the sort order for the list.
- 3.12.1.2.19 The user specifies 'Standard List' and presses the List button
- 3.12.1.2.20 The system displays the screen 10206ListRequestOutages.
- 3.12.1.2.21 The system displays a list of request outages in ascending Request Number order. The outages listed match the search criteria entered by the user. If both of the outage's proposed date ranges match the query parameters then the outage will appear twice in the list.
- 3.12.1.2.22 The request outage number will be suffixed with an indication of which of the date ranges matched the query, ie. suffixed with '-1' or '-2'.
- 3.12.1.2.23 If the outage has no proposed dates but the window dates match the query parameters then the request will be displayed in the list with its window dates showing. The request outage number will be suffixed with '-w'.
- 3.12.1.2.24 If the user is an SO user then the system will run the unwise asset combination check for each request outage in the list and if other assets in the unwise group are on outage at the same time then the system will display a red exclamation mark next to the start date field.
- 3.12.1.2.25 If the outage has any outage links defined then the system will check if any of the links are being violated. If any are then the system will display the red exclamation mark (as above).

- 3.12.1.2.26 The 'selected' status of the dates (i.e. 'Y', 'N' or '?') will be displayed next to the request outage status.
- 3.12.1.2.27 The system displays the 'Accept into Pending' button if the user has 'Accept into Pending' permission. The user can accept request outages calling use case Accept Request into Pending 3.19.1.4
- 3.12.1.2.28 The system displays the 'Fasttrack into Plan' button if the user has 'Accept into Plan' permission. The user can accept request outages directly into the plan by calling use case Fasttrack Requests directly into Plan 3.14.1.1
- 3.12.1.2.29 From the Request outage list the user may select the Request No. link to modify or delete an outage (using either use case Modify Outage Request 3.15.1.1 or use case Delete Cancelled Outage 3.19)
- 3.12.1.2.30 If the user has permission to view but not edit request outages then selecting the Request No link accesses use case View Outage Request 3.13
- 3.12.1.2.31 The use case ends.

3.12.1.3 Special Requirements (Secure Access Privilege)

Accessible by 'View Request Outages' and 'Edit Request Outages' security operations.

3.12.1.4 Pre-conditions

None

3.12.1.5 Post-conditions

None

3.12.1.6 Extension Points

Create Outage Request 3.11
Modify Outage Request 3.15.1.1
Delete Cancelled Outage 3.19
Accept Request into Pending 3.19.1.4
View Outage Request 3.13
Download Request Outage File 3.21

3.13 View Outage Request

3.13.1.1 Brief Description

The user wants to display details of the request outage.

3.13.1.2 Basic Flow

- 3.13.1.2.1 A user with 'View Request Outages' but not 'Edit Request Outages' permission selects an outage in the List Request Outages screen.
- 3.13.1.2.2 The system displays the 10210EditRequestOutage screen with the screen title 'VIEW REQUEST OUTAGE'.
- 3.13.1.2.3 The system shows the selected outage record in display only mode.
- 3.13.1.2.4 The only enabled buttons are 'Plan Comments', 'Free Codes/Parties' and 'Risk Details' allowing the user to access these three screens in display only mode. The risk details page will only be viewable if one or more of the risk checkboxes are checked.
- 3.13.1.2.5 Weekend dates will be displayed with a yellow background and public holidays, for the TO, in blue.
- 3.13.1.2.6 The use case ends.

3.13.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'View Request Outages' security operation.

3.13.1.4 Pre-conditions

Outage record must be queried in the screen 10206ListRequestOutages

3.13.1.5 Post-conditions

None.

3.13.1.6 Extension Points

None.

3.14 Display Updateable List

3.14.1.1 Brief Description

The user wants to quickly update data on multiple Request outages. This updateable list is called from the standard Request Query parameter screen but

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gives the user the capability to update data directly in the list and quickly accept the request outages into the plan.

Note: Much of this functionality is shared with the use case List Outage Requests.

3.14.1.2 Basic Flow

- 3.14.1.2.1 The system displays the screen 10216QueryRequestOutages
- 3.14.1.2.2 The user can choose the query parameters as specified in List Request Outages use case flow 3.12.1.2.2 to 3.12.1.2.17 inclusively.
- 3.14.1.2.3 The user specifies 'Updatable List' and presses the List button.
- 3.14.1.2.4 The system displays the screen 10208UpdateableRequestList in a separate browser window.
- 3.14.1.2.5 The system displays a list of request outages in Start Date, Request Number or Outage Number order. The outages listed match the search criteria entered by the user.
- 3.14.1.2.6 If the user is an SO user then the system will run the unwise asset combination check for each set of proposed dates for each request outage displayed in the list. If any other assets in the unwise group are on outage at the same time then the system will display a red exclamation mark next to the appropriate start date field.
- 3.14.1.2.7 If the outage has any outage links defined then the system will check if any of the links are being violated by either proposed date range. If any are then the system will display the red exclamation mark (as above). Generator outage link infringements will only be displayed if the user has View Generator Links or Edit Generator Links security permissions.
- 3.14.1.2.8 Weekend dates will be displayed with a yellow background and public holidays, for the TO, in blue.
- 3.14.1.2.9 If the user has 'View Cost Risk' or 'Edit Cost Risk' permissions then the system will display the Cost Risk field.
- 3.14.1.2.10 If the user has 'View Risk' or 'Edit Risk' permissions then the system will display the Winter ERTS Risk and Demand at Risk fields.
- 3.14.1.2.11 The system displays the 'Accept into Pending' button if the user has 'Accept into Pending' permission.

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- 3.14.1.2.12 The system displays the 'Fasttrack into Plan' button if the user has 'Fasttack into Plan' permission.
- 3.14.1.2.13 The user may view the request outage, planned outage (if existent) or the Work Involved field via pop up pages.
- 3.14.1.2.14 The user may change the status to any status that the user is authorised to. The status authorisation is specified in the TOGA System Administration design document).
- 3.14.1.2.15 If the request outage is a comment outage then the user may update the Circuit/Description.
- 3.14.1.2.16 The user may change the In Service checkbox only if the outage is not a comment outage.
- 3.14.1.2.17 The user may flag the outage as being a fault outage. If the outage has fault information entered then the user will not be able to uncheck the fault outage field.
- 3.14.1.2.18 The user may modify the SO comments if the user is an SO and is having the EDIT rights .
- 3.14.1.2.19 The user may modify the proposed dates or flag the dates as being selected.
- 3.14.1.2.20 If the user has 'Edit Risk' permission then the user may flag the outage as being a 'Winter ERTS Risk' or a 'Demand at Risk' outage.
- 3.14.1.2.21 If the user has 'Edit Cost Risk' permission then the user will be able to flag the outage as being a Cost Risk outage.
- 3.14.1.2.22 The user may amend the data on a number of other outages.
- 3.14.1.2.23 The user presses the Save button. See alternative flow 3.14.1.3
- 3.14.1.2.24 The system saves the data to the database.
- 3.14.1.2.25 If the user has changed the status to 'Pending' or 'Planned' then the system will perform the Accept Request into Pending use case (3.20.1.6) or the Fasttrack Requests directly into Plan (from step 3.15.1.2.5)
- 3.14.1.2.26 The user can accept request outages calling use case Accept Request into Pending 3.20.1.5
- 3.14.1.2.27 The user can accept request outages directly into the plan by calling use case Fasttrack Requests directly into Plan 3.15.1.2
- 3.14.1.2.28 The user closes the window.
- 3.14.1.2.29 The use case ends.

3.14.1.3 Alternative Flow

3.14.1.3.1 The user tries to save a record where the outage has a rating restriction but the user has unchecked the In Service checkbox. The system displays an appropriate warning message.

3.14.1.4 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Request Outages' security operation.

3.14.1.5 Pre-conditions

None.

3.14.1.6 Post-conditions

Request outages updated. Planned outages (and possibly pending outages) may be created and the requests have their status changed to 'Pending' or 'In Plan'.

3.14.1.7 Extension Points

Fasttrack Requests directly into Plan 3.15

Accept Request into Pending 3.20

3.15 Fasttrack Requests directly into Plan**3.15.1.1 Brief Description**

The SO has a large number of Request outages and wants to accept them straight into the plan.

3.15.1.2 Basic Flow 1 (Accept outage from the list)

3.15.1.2.1 The user checks the 'Accept' checkboxes next to a number of the request outages. Alternatively the user can check the checkbox of all listed outages by pressing the 'All' button.

3.15.1.2.2 The user presses the 'Fasttrack Into Plan' button.

3.15.1.2.3 The system checks that each selected request has a non-cancelled status (as defined by the Status Maintenance screen).

3.15.1.2.4 If the outage has only one date range entered then this range will be automatically selected. If the outage has two ranges entered but one, and only one, has the selected flag = 'N' then the other range will automatically be selected.

3.15.1.2.5 The system checks that each selected request that is flagged as a risk has got the risk information entered. A system parameter

determines whether to apply this rule or not. If the rule is being applied then the system will either display a warning message or display an error message and prevent the outage from being accepted.

3.15.1.2.6 If outage links exist for the planned outage number then the system checks if either set of the proposed request dates (not the window dates) infringe one or more of the links. If so then a warning message is displayed stating the outage numbers for the links in violation.

3.15.1.2.7 If the freeze date, for the licensed area, has passed for any of the plan years affected by the selected requests then the system will check that each request has a change code, a change description and a change requestor entered. If any of the requests do not have this information then the system will display an error message and the acceptance of the outages will fail.

3.15.1.2.8 The system will:
 create a Planned Outage record for each addition request outage being accepted
 update the planned outage for each update request outage being accepted and
 cancel the planned outage for each cancel request outage being accepted.

3.15.1.2.9 The status of each of the accepted request outages will be updated to 'In Plan'.

3.15.1.2.10 The system records the current system date/time in the 'last time the status was changed' field.

3.15.1.2.11 The system will update the list to display any warnings and errors and to show which outages were not accepted.

3.15.1.2.12 The use case ends.

3.15.1.3 Basic Flow 2 (Accept single outage)

3.15.1.3.1 The user selects the outage for update in the list

3.15.1.3.2 The system displays the 10210EditRequestOutage screen and displays the outage for update.

3.15.1.3.3 The user updates the status to 'Planned' and presses the 'Save' button.

3.15.1.3.4 The system checks that the outage has one proposed date range selected and the other non-selected.

3.15.1.3.5 The rest of the flow follows Basic Flow 1 from point 3.15.1.2.3

3.15.1.4 Special Requirements (Secure Access Privilege)

Accessible by the 'Accept into Plan' security operation.

3.15.1.5 Pre-conditions

Outage records must be queried in the screen 10206ListRequestOutages

3.15.1.6 Post-conditions

Planned outages (and possibly pending outages) are created for the selected requests. The requests have their status changed to 'In Plan'.

3.15.1.7 Extension Points

e.g. None.

3.16 Modify Outage Request

3.16.1.1 Basic Flow 1 (for TO fields)

3.16.1.1.1 A user with 'Edit Request Outages' permission selects an outage in the List Request Outages screen.

3.16.1.1.2 The system displays the 10210EditRequestOutage screen with the screen title 'EDIT REQUEST OUTAGE'. The user is allowed to edit the outage only if respective Role has been assigned privilege 'Roles who can edit data at this status' for that status value(!863)

3.16.1.1.3 The system shows the selected outage record in the screen.

3.16.1.1.4 If the Circuit/Description field or the ERTS fields differ from those on the planned outage then these fields will be shown in a different colour and the values from the planned outage will be available on hovering the pointer over the field.

3.16.1.1.5 The system will display the proposed start and end dates in the standard date format and will also display the dates in day/week format below the dates (e.g. 15.2W04). The existing dates from the associated planned outage will also be displayed. Weekend dates will be displayed with a yellow background and public holidays, for the TO, will be displayed with a blue background.

3.16.1.1.6 The system will enable the Copy and Delete buttons.

- 3.16.1.1.7 The user cannot amend the Request No.
- 3.16.1.1.8 The user can change the status to any value in the list (as defined by their role).
- 3.16.1.1.9 The user cannot amend the plan year.
- 3.16.1.1.10 If the request is for an 'Update' or 'Cancel' outage then the planned outage number will be displayed in the Outage Number field and the user will not be able to change the value.
- 3.16.1.1.11 If the request is for an 'Addition' outage then the user will be able to amend the proposed outage number (as displayed in the Outage Number field).
- 3.16.1.1.12 The user cannot change the value in the Type field.
- 3.16.1.1.13 The system will populate the list of basic outage references as those in the same group as the current basic outage.
- 3.16.1.1.14 If the user wants to change the basic outage then the user may pick a basic reference code from the list and press the Update button. This will cause the fields listed in section 3.11.1.2.5 to be re-populated from the new basic outage reference. Any parties that have been manually added to the (copied) request outage will be retained. Also if the old and new basic outages have the same external party then the external party comments will be retained.
- 3.16.1.1.15 If the status code has been updated then the system will record the current system date/time in the 'last time the status was changed' field.
- 3.16.1.1.16 The rest of the use case contains the same steps as the Create Request Outage use case Basic Flow 1 from 3.11.1.2.13 to 3.11.1.2.43.
- 3.16.1.1.17 The use case ends.

3.16.1.2 Basic Flow 2 (for SO fields)

- 3.16.1.2.1 An SO user with 'Edit Request Outages' permission selects an outage in the List Request Outages screen.
- 3.16.1.2.2 The user may enter SO Request Comments.
- 3.16.1.2.3 If required the user may press the 'Plan Comments' button in order to view the comments on the associated planned outage. If the outage is an addition to the plan then this button will not be available.
- 3.16.1.2.4 The user may enter operational remarks.

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- 3.16.1.2.5 If the associated basic outage has been identified as a demand at risk then this request will also be identified as a demand at risk but the user can uncheck the 'Demand at Risk' field if required.
- 3.16.1.2.6 The Perform Business Checks use case may have deemed the request outage to be a Winter ERTS Risk but the user can uncheck the 'Winter ERTS Risk' field if required
- 3.16.1.2.7 The user may additionally identify the outage as being a Cost Risk.
- 3.16.1.2.8 The system will only display the Cost Risk checkbox if the user has 'View Cost Risk' or 'Edit Cost Risk' permission.
- 3.16.1.2.9 The user may pick another SO Impact value from the list.
- 3.16.1.2.10 The user may identify the request as being Nationally Secure or Locally Secure.
- 3.16.1.2.11 The user may not change the TO field.
- 3.16.1.2.12 The SO Lead Planner field may be set to any value in the list.
- 3.16.1.2.13 The user presses the Save button.
- 3.16.1.2.14 The system saves the data to the database.
- 3.16.1.2.15 The system records details of the last update date and user id.

3.16.1.3 Basic Flow 3 (for entry of Risk Details)

- 3.16.1.3.1 While editing a request outage in the 10210EditRequestOutage screen the user selects the 'Risk Details' button. The risk details page will only be viewable if one or more of the risk checkboxes are checked.
- 3.16.1.3.2 The system will only allow entry to the risk information screen if the user has either 'View Risk', 'Edit Risk', 'View Cost Risk' or 'Edit Cost Risk' security permission.
- 3.16.1.3.3 The system displays the 10217EditRiskInfo' screen and displays the risk information associated with the request outage.
- 3.16.1.3.4 The system will display the Request Number, the Planned Outage Number, the Winter ERTS risk flag and the Demand at Risk flag. Additionally if the user has 'View Cost Risk' or 'Edit Cost Risk' permission then the system will display the Cost Risk flag.
- 3.16.1.3.5 If the request outage has been flagged as a Winter ERTS risk and the user has either 'View Risk' or 'Edit Risk' permission then the system will display the following fields: Risk, Winter ERTS Risk comment and Outage Justification.

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- 3.16.1.3.6 If the request outage has been flagged as a Demand at Risk and the user has either 'View Risk' or 'Edit Risk' permission then the system will display the following fields: Risk, Local, TPSO/Switching issues, Outage Justification, Mitigating Actions, Decision and In-week Decision.
- 3.16.1.3.7 If the request outage has been flagged as a Cost Risk and the user has either 'View Cost Risk' or 'Edit Cost Risk' permission then the system will display the following fields: Risk, Cost Risk Summary, Strategy, OSG Actions, Cost/Week, Chance of Occurring, Central Forecast, Actual out-turn, Status and Lead Planning Engineer.
- 3.16.1.3.8 The user can enter details in the appropriate fields for the risk type(s) if they have 'Edit Risk' or 'Edit Cost Risk' security permissions. The risk field must be entered but the others are optional.
- 3.16.1.3.9 The user presses the Save button to save the data to the database.
- 3.16.1.3.10 The system records the time, date and user when the data was saved.
- 3.16.1.3.11 The use case ends.

3.16.1.4 Basic Flow 4 (for entry of Free Codes/Parties – SO User)

- 3.16.1.4.1 While editing a request outage in the 10210EditRequestOutage screen the user selects the 'Free Codes/Parties' button.
- 3.16.1.4.2 The system displays the 10219EditOutageParties screen and displays the parties and free codes information associated with the request outage.
- 3.16.1.4.3 The user can add free codes by choosing the free code in the drop down list and pressing the Add button.
- 3.16.1.4.4 The user can remove free codes by pressing the delete icon next to the free code to be removed.
- 3.16.1.4.5 The user cannot amend the Equip Owner field.
- 3.16.1.4.6 The user can add SO, TO or external parties by selecting the party in the drop down box and pressing the appropriate Add button. The full name of the Party should be displayed on the list and also the drop down list when choosing the party. (1684)
- 3.16.1.4.7 The user can delete SO, TO and external parties by selecting the delete icon next to the party.

- 3.16.1.4.8 The user can amend (or add) comments to the external parties by entering the comments and pressing the 'Save Comments' button.
- 3.16.1.4.9 All parties added via this screen will be identified as such so that they are not removed by a change in the basic outage reference.
- 3.16.1.4.10 If the outage is a comment outage and the user has not specified a basic outage reference then the user can add and remove substations in the standard way.
- 3.16.1.4.11 The Equipment Owner field and the lists of assets and tower references associated with the basic outage are displayed read only.
- 3.16.1.4.12 The use case ends.

3.16.1.5 Basic Flow 5 (for entry of Free Codes/Parties – TO User)

- 3.16.1.5.1 This flow is identical to the Basic Flow 4 above except that the system will not display the External Party Comments.
- 3.16.1.5.2 The user can add/remove free codes and add/remove TO parties. The user cannot amend any other fields.

3.16.1.6 Basic Flow 6 (for entry of Outage Links)

- 3.16.1.6.1 While editing a request outage in the 10210EditRequestOutage screen the user selects the 'Links' button. The Link button will only be available if the request outage has a proposed outage number entered.
- 3.16.1.6.2 The system displays the 10220OutageLinks screen and displays the existing planned outage number (or the proposed outage number in the case of an addition request outage), the outage type (which will be request), and details of any linked transmission or generation outages. The system displays all links regardless of whether the user is an SO or TO user.
- 3.16.1.6.3 The user can link a transmission outage by selecting the outage type, entering the outage number, selecting the link type and pressing the Add button.
- 3.16.1.6.4 Alternatively, if the user does not know the outage number, the user can press the Find button, which will either call the 10303QueryPlannedOutages screen or the 10216QueryRequestOutages screen, depending upon the selection of the outage type, allowing the user to search for the planned outage or the proposed outage numbers on other request outages. In either case the user must then select the link type and press the

Add button. A TO user will only be able to add transmission outage links for outages in their own licensed area.

- 3.16.1.6.5 If the dates of the outages being linked are more than 4 weeks from each other then a warning message will be given.
- 3.16.1.6.6 The user can remove linked transmission outages by pressing the delete icon next to the link to be removed.
- 3.16.1.6.7 If the user has View Generator Links or Edit Generator Links security permission then the user can view or link generation outages to the outage in the same way as the transmission outages are linked.

3.16.1.7 Special Requirements (Secure Access Privilege)

Accessible by the 'View Risk', 'Edit Risk', 'View Cost Risk' and 'Edit Cost Risk' security operations.

3.16.1.8 Pre-conditions

Outage record must be queried in the screen 10206ListRequestOutages

3.16.1.9 Post-conditions

Modified request outage

3.16.1.10 Extension Points

None.

3.17 Change Request Status

3.17.1.1 Brief Description

A user wishes to change the status of an outage that they have previously entered.

3.17.1.2 Basic Flow

- 3.17.1.2.1 The user selects an outage in the List Request Outages screen.
- 3.17.1.2.2 The system displays the screen 10210EditRequestOutage and populates the fields to display details of the chosen outage.
- 3.17.1.2.3 The user changes the status to any status that the user is authorised to. The status authorisation is specified in the TOGA System Administration design document).

- 3.17.1.2.4 The user presses the 'Save' button.
- 3.17.1.2.5 The status change is saved to the database.
- 3.17.1.2.6 The system records details of the last update date and user id.
- 3.17.1.2.7 The system records the current system date/time in the 'last time the status was changed' field.
- 3.17.1.2.8 The use case ends.

3.17.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Request Outages' security operation.

3.17.1.4 Pre-conditions

Outage record must be queried in the screen 10206ListRequestOutages

3.17.1.5 Post-conditions

Status of outage changed.

3.17.1.6 Extension Points

None.

3.18 Cancel Outage Request

3.18.1.1 Brief Description

The user wants to cancel a request outage. This will mean that the request will not be applied to the planned outage. The user is only allowed to cancel outages that they have permission to update.

3.18.1.2 Basic Flow

- 3.18.1.2.1 The user selects an outage in the List Request Outages screen.
- 3.18.1.2.2 The system displays the screen 10210EditRequestOutage and populates the fields to display details of the chosen outage.
- 3.18.1.2.3 The user picks the 'Cancelled' status from the list. If the 'Cancelled' status does not appear in the list for the user then they will be unable to cancel the outage. (The status authorisation is specified in the TOGA System Administration design document).
- 3.18.1.2.4 The user presses the 'Save' button.
- 3.18.1.2.5 The status change is saved to the database.

- 3.18.1.2.6 The system records details of the last update date and user id.
- 3.18.1.2.7 The system records the current system date/time in the 'last time the status was changed' field.
- 3.18.1.2.8 The use case ends.

3.18.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Request Outages' security operation.

3.18.1.4 Pre-conditions

Outage record must be queried in the screen 10206ListRequestOutages

3.18.1.5 Post-conditions

The outage status is set to cancelled

3.18.1.6 Extension Points

None.

3.19 Delete Cancelled Outage

3.19.1.1 Brief Description

The user wishes to permanently remove from the system a Request outage that has been previously cancelled.

3.19.1.2 Basic Flow

- 3.19.1.2.1 The user selects an outage in the List Request Outages screen.
- 3.19.1.2.2 The user queries a request outage of status 'Cancelled'.
- 3.19.1.2.3 The system displays the record in EditRequestOutage and makes the 'Delete' button available.
- 3.19.1.2.4 The user presses the 'Delete' button.
- 3.19.1.2.5 The system physically deletes the record from the database.

3.19.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Request Outages' security operation.

3.19.1.4 Pre-conditions

Outage record must be cancelled outage queried in the screen 10206ListRequestOutages

3.19.1.5 Post-conditions

The outage is physically deleted

3.19.1.6 Extension Points

None.

3.20 Accept Request into Pending**3.20.1.1 Brief Description**

An outage request has been approved by the SO and the user wants to move it into Pending.

3.20.1.2 Basic Flow 1 (Acceptance from Request Outage List)

- 3.20.1.2.1 The user checks the 'Accept' checkboxes next to a number of the request outages. Alternatively the user can check the checkbox of all listed outages by pressing the 'All' button.
- 3.20.1.2.2 The user presses the 'Accept into Pending' button.
- 3.20.1.2.3 If the outage has been selected more than once in the list then the system will check the selected flags on the dates. If the outage had only one date range entered then this will become the selected range. If the outage has one range with the selected flag = 'N' and the other with selected = 'Y' or '?' then the latter will be selected. If both date ranges have selected = 'Y' or '?' then the outage cannot be accepted.
- 3.20.1.2.4 If the outage has only been selected once then the date range of the selected instance of the outage will be set to be 'selected=Y' and the other date range to 'selected=N'.
- 3.20.1.2.5 The system checks that each selected request has a non closed status.
- 3.20.1.2.6 The system checks that each selected request that is flagged as a risk has got the risk information entered. A system parameter determines whether to apply this rule or not. If the rule is being applied then the system will either display a warning message or display an error message and prevent the outage from being accepted.
- 3.20.1.2.7 If the freeze date, for the licensed area, has passed for any of the plan years affected by the selected requests then the system will check that each request has a change code, a change description and a change requestor entered. If any of the requests do not have

this information then the system will display an error message and the acceptance of the outages will fail.

- 3.20.1.2.8 The system will create a Pending Outage record for each request outage being accepted. Details of this record will be given in the Transmission Outage Management design document.
- 3.20.1.2.9 The status of each of the accepted request outages will be updated to 'Pending'.
- 3.20.1.2.10 The system records the current system date/time in the 'last time the status was changed' field.
- 3.20.1.2.11 The system redisplay the list showing the appropriate warning and error messages and the outage that were not accepted.
- 3.20.1.2.12 The use case ends.

3.20.1.3 Basic Flow 2 (Acceptance from Edit Request Outage screen)

- 3.20.1.3.1 The user selects the outage for update in the list
- 3.20.1.3.2 The system displays the outage in the 10210EditRequestOutage screen.
- 3.20.1.3.3 The user presses the 'Accept' button.
- 3.20.1.3.4 The system checks that the outage has one proposed date range selected and the other non-selected.
- 3.20.1.3.5 The rest of the flow follows Basic Flow 1 from point 3.20.1.2.5

3.20.1.4 Basic Flow 3 (Acceptance from Edit Request Outage screen)

- 3.20.1.4.1 The user selects the outage for update in the list
- 3.20.1.4.2 The system displays the outage in the 10210EditRequestOutage screen.
- 3.20.1.4.3 The user updates the status to 'Pending' and presses the 'Save' button.
- 3.20.1.4.4 The system checks that the outage has one proposed date range selected and the other non-selected.
- 3.20.1.4.5 The rest of the flow follows Basic Flow 1 from point 3.20.1.2.6

3.20.1.5 Basic Flow 4 (Acceptance from Updateable Request Outage List)

- 3.20.1.5.1 The user checks the 'Accept' checkboxes next to a number of the request outages. Alternatively the user can check the checkbox of all listed outages by pressing the 'All' button.

- 3.20.1.5.2 The user presses the 'Accept into Pending' button.
- 3.20.1.5.3 The outage must not be at a closed status (e.g. cancelled, planned etc.)
- 3.20.1.5.4 If the outage had only one date range entered then this will become the selected range.
- 3.20.1.5.5 If the outage has one range with the selected flag = 'N' and the other with selected = 'Y' or '?' then the latter will be selected.
- 3.20.1.5.6 If both date ranges have selected = 'Y' or '?' then the outage cannot be accepted.
- 3.20.1.5.7 The rest of the flow follows Basic Flow 1 from point 3.20.1.2.5

3.20.1.6 Basic Flow 5 (Acceptance by status change from Updateable Request Outage List)

- 3.20.1.6.1 The system checks that the outage has one proposed date range selected and the other non-selected.
- 3.20.1.6.2 The rest of the flow follows Basic Flow 1 from point 3.20.1.2.6

3.20.1.7 Special Requirements (Secure Access Privilege)

Accessible by the 'Accept into Pending' security operation.

3.20.1.8 Pre-conditions

Outage records must be queried in the screen 10206ListRequestOutages.

3.20.1.9 Post-conditions

Pending outages are created for the selected requests. The requests have their status changed to 'Pending'.

3.20.1.10 Extension Points

e.g. None.

3.21 Download Request Outage File

3.21.1.1 Brief Description

The user requires a list of their request outages. It is expected that this is to keep their internal systems in line with TOGA.

Note: The details of the download is given in the TOGA – TOPAM Reports Design document.

3.21.1.2 Basic Flow

- 3.21.1.2.1 The user selects the Download Request Outages option from the reports menu.
- 3.21.1.2.2 The user enters required parameters.
- 3.21.1.2.3 The system creates a csv file and presents it to the user.
- 3.21.1.2.4 The user views or saves the file as required.
- 3.21.1.2.5 The use case ends.

3.21.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'Download Request Outages security operation.

3.21.1.4 Pre-conditions

None

3.21.1.5 Post-conditions

The file is created.

3.21.1.6 Extension Points

None.

3.22 List Outages**3.22.1.1 Brief Description**

The user wants to display a specific list of outages in order to:

- view an outage.
- amend an outage.
- delete/cancel an outage.
- retrieve a copy of the outage data as a first step to creating a new outage.
- agree/disagree an outage.

The outages will be displayed one on each line of the list.

3.22.1.2 Basic Flow

- 3.22.1.2.1 The system displays the screen 10303QueryPlannedOutages.

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- 3.22.1.2.2 The user can specify whether to list Planned outages, Pending outages or both types.
- 3.22.1.2.3 The user can enter the starting characters of the Outage number.
- 3.22.1.2.4 The user can choose the plan year from the list
- 3.22.1.2.5 The user can enter the starting characters of a basic outage reference code so that only outages concerned with the specified basic outages are selected.
- 3.22.1.2.6 The user can choose the licensed area from the list
- 3.22.1.2.7 The user can select one or more parties and specify whether one or all of the selected parties must exist on the queried outages.
- 3.22.1.2.8 The user can choose the status from the list. The status codes displayed will contain either planned outage status codes, pending outage status codes or both, depending upon which outage types the user has chosen to display.
- 3.22.1.2.9 The user can select one or more work types and specify whether one or all of the selected work types must exist on the queried outages.
- 3.22.1.2.10 The user can select one or more free codes and specify whether one or all of the selected free codes must exist on the queried outages.
- 3.22.1.2.11 The user can choose to search for outages referencing a particular substation by choosing the 'Substation' option, entering a valid substation code and pressing the Add button. The substation will be added to the list of substations on the screen. If the user does not know the substation code they can use the 'Find' button to allow them to search for the substation. This will bring back a substation code and automatically add it to the list.
- 3.22.1.2.12 Alternatively the user may enter a substation group. This is achieved by selecting the 'Group' option, entering a substation group code and pressing the Add button. The substation group code is added to the substation list. If the user does not know the substation group code they can use the Find button which displays the substation group list screen for where the user may pick a substation group and the system will add it to the substation list.
- 3.22.1.2.13 The user can choose whether the outages should contain all the listed substations or at least one of the substations.
- 3.22.1.2.14 The user may enter a low and/or high ERTS value. The low ERTS value will ensure that only outages which have a day or night ERTS

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value greater than or equal to the parameter's number of hours will be queried. Likewise, the high ERTS value will ensure that only outages which have a day or night ERTS value less than or equal to the parameter's number of hours will be queried.

- 3.22.1.2.15 The user can choose a TO Significance number from the list.
- 3.22.1.2.16 The user can choose which types of outage to display. If the user checks no boxes then the system will query all outages. IF the user chooses one or more checkboxes then the system will only display outages of these types.
- 3.22.1.2.17 The user can choose which SO Impact the selected outages should have. The system will default SO Impact values of 'A', 'B' and 'C'. The user may de-select any of these values and additionally check the boxes so that the query returns outages of SO Impact 'D' and 'E'.
- 3.22.1.2.18 The query will return Standard outages, SO Confidential, Comment outages, TO Booking and DNO outages if the appropriate checkboxes are checked. The Standard and Comment checkboxes will be checked as a default. The SO Confidential checkbox (and title) should only be displayed to users with View/Edit Risk Info security permissions.
- 3.22.1.2.19 The user can enter a valid from and to date for the search
- 3.22.1.2.20 The user can choose to only show outages starting or ending within the date range or all those that intersect with the date range.
- 3.22.1.2.21 The user may choose to only view outages that have changed status since a particular date.
- 3.22.1.2.22 The user must choose the ordering of the list. Will default to Start Date.
- 3.22.1.2.23 The user specifies 'Standard List' and presses the List button
- 3.22.1.2.24 The system displays the screen 10301ListPlannedOutages.
- 3.22.1.2.25 The system displays a list of pending and/or planned outages in ascending Outage Number order. The outages listed match the search criteria entered by the user. For the first column use "Pending/ Planned" as the column title. (997)
- 3.22.1.2.26 If the list is displaying Pending outage then the system displays the 'Accept' button if the user has 'Accept into Plan' permission. The user can accept pending outages into the plan by calling use case 'Agree / Disagree Outages' 3.30

- 3.22.1.2.27 From the outage list the user may select the Outage No link to modify or delete an outage (using either use case Modify Outage 3.25.1.1, Update Actuals 3.36, Record Notes 3.29, Change Outage Status 3.30.1.1, View Notes 3.31.1.1, Cancel Outage 3.32.1.1 or Delete Outage 3.33.1.1)
- 3.22.1.2.28 If the outage has risk information then the system will display a Risk link. The user can select the link in order to access the Risk information (covered by use case Add/Modify Commission, Risk and Fault Information 3.26.1.9.1)
- 3.22.1.2.29 The system presents a History link for each planned outage. The user can select this link in order to view the history of the outage (covered by use case View Change History 3.34.1.1)
- 3.22.1.2.30 If the user has 'Run General Outage Report' security permission then the system presents the user with a Print button. The user can select this button to print the General Outage Report using the same report parameters as were entered in the Query screen (covered by use case Print Outage List 3.24).
- 3.22.1.2.31 The use case ends.

3.22.1.3 Special Requirements (Secure Access Privilege)

Accessible by 'View Request Outages' and 'Edit Request Outages' security operations.

3.22.1.4 Pre-conditions

None

3.22.1.5 Post-conditions

None

3.22.1.6 Extension Points

Print Outage List 3.24

Modify Outage 3.25.1.1

Add/Modify Commission, Risk and Fault Information 3.26.1.9.1

Record Notes 3.29

Agree / Disagree Outages 3.30

Change Outage Status 3.30.1.1

View Notes 3.31.1.1

Cancel Outage 3.32.1.1

Delete Outage 3.33.1.1

View Change History 3.34.1.1

Update Actuals 3.36

3.23 Create Outage

3.23.1.1 Brief Description

Either a new Planned outage is required OR a new Pending outage is required to:

- add an outage to the Plan

- update an outage in the plan

The rules as to which outages can be created by which users from which sources is defined in the following table:

| User Type | Reference outage | New Outage Type | Action |
|-----------|------------------|--|---|
| TO | Blank | To entry | New planned |
| SO | Blank | Comment | New planned |
| | | DNO | New planned |
| | | So confidential | New planned |
| TO | Basic | Standard (but system may decide it is a comment) | New pending |
| | | TO entry (but only against DNO basic) | New plan |
| SO | Basic | Standard (but may be comment) | New pending or New Planned |
| | | DNO | New planned |
| | | SO confidential | New planned |
| TO/SO | Planned | Not active | New pending to update/cancel a planned outage |

3.23.1.2 Basic Flow 1 (Create Addition Standard Pending Outage – TO user)

3.23.1.2.1 The system displays the screen 10302AddPlannedOutage.

3.23.1.2.2 The user can choose the plan year for the outage from the list.

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- 3.23.1.2.3 The user must choose 'Basic' and enter the reference code for a basic outage in the user's licensed area. If the user does not know the reference code then they can press the 'Find' button in order to access the Query Basic Outages screen.
- 3.23.1.2.4 The user selects the type 'Standard' for the new outage.
- 3.23.1.2.5 Note: The basic outage chosen by the user must not be comment basic outage because this will cause a comment pending outage to be created instead of a standard pending outage.
- 3.23.1.2.6 The user selects the 'Create New Pending Outage' option and presses the 'Create Outage' button.
- 3.23.1.2.7 The system displays the screen 10305EditPlannedOutage in Add mode. The screen title indicates that a Pending outage is being added. The Delete and Copy buttons are not displayed when the user is adding an outage.
- 3.23.1.2.8 The status is set to Editable.
- 3.23.1.2.9 The Circuit/Description, TO, Demand at Risk, SO impact, Operational Remarks, TO parties, SO parties, external parties, external party comments, substations, assets, free codes, tower references and equipment owner fields are populated from the Basic Outage record.
- 3.23.1.2.10 The user may enter a Plan Number for the outage.
- 3.23.1.2.11 The user can change the status to 'Awaiting Agreementt' if required.
- 3.23.1.2.12 The user cannot change the plan year.
- 3.23.1.2.13 The system will display the request outage type – in this case it will display 'Addition/Standard'.
- 3.23.1.2.14 The system will populate the list of basic outage references as those in the same group as the current basic outage.
- 3.23.1.2.15 When creating a new pending outage the user will not be able to change the basic outage reference and so the system will not enable the Basic Outage Ref list or button.
- 3.23.1.2.16 The Circuit/Description field is read only.
- 3.23.1.2.17 The user may add an additional description.
- 3.23.1.2.18 The user can enter a user specific reference for the record.
- 3.23.1.2.19 The user may identify the outage as a fault by checking the fault checkbox.
- 3.23.1.2.20 The user must specify the fault reason from the available list.

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- 3.23.1.2.21 The user must enter the Work Involved field.
- 3.23.1.2.22 The user must specify whether the outage is daily or continuous (C/D), whether the main circuit is in service and indicate the TO significance.
- 3.23.1.2.23 The user must enter an ERTS day value, and may enter an ERTS night value. If the user specifies that the outage is continuous then the user will be forced to enter an ERTS night value.
- 3.23.1.2.24 The user may enter Eng/TO Comments.
- 3.23.1.2.25 The user may indicate the Rating Adjustment percentage of the asset under the outage.
- 3.23.1.2.26 The user may enter a PER date and time.
- 3.23.1.2.27 The user may enter an APA date and time.
- 3.23.1.2.28 The user may select one or more work types for the outage by selecting multiple Work Types in the list.
- 3.23.1.2.29 The user must enter planned start and end dates.
- 3.23.1.2.30 The user may enter the start and end dates in either standard date format (DD/MM/YYYY) or in engineering day/week format (e.g. 15.2W04)
- 3.23.1.2.31 If any of the proposed dates are public holidays, for the TO, then the user will be warned.
- 3.23.1.2.32 The user may enter a PFW date and time.
- 3.23.1.2.33 As the outage is a pending outage the user will not be able to enter Actual start or end dates.
- 3.23.1.2.34 The TO lead planner will default to the current user's id but can be changed to any value from the list (any user from the TO planner role).
- 3.23.1.2.35 The user may enter a change description for the pending outage. This field is not required if the change is before the freeze date for the plan year.
- 3.23.1.2.36 The Requesting Party field will default to the TO user's own party but the user can change the field to any value from the list (any SO party or any TO or external party in the same licensed area as the outage).
- 3.23.1.2.37
- 3.23.1.2.38 The user may pick a Change Code from the list. This field is not required if the change is before the freeze date for the plan year.

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- 3.23.1.2.39 The user presses the Save button. See alternative flow 3.11.1.3
- 3.23.1.2.40 System performs business specific validation by calling use case Perform Business Checks (as specified in the TOGA – TOPAM Outage Requests Design Document).
- 3.23.1.2.41 If the start date is on or before the current date and the outage is not flagged as a fault then the system will warn the user that - “Planned start date is before today’s date- This may be a fault outage, please update the fault outage if this is the case”. This message should only show when an outage is first added to the plan for standard outages not for subsequent updates. (1162)
- 3.23.1.2.42 The data is validated and saved to the database.
- 3.23.1.2.43 If the user has not specified an outage then the system generates the next unused outage number from the TO’s plan number sequence and prefixes it with the user’s TO prefix code.
- 3.23.1.2.44 If the user has checked the Fault checkbox then the system will determine the type of fault from the outage’s SO impact, asset type, work type and In Service flag. (Note: The user will be able to see the fault identifier field in the Fault page).
- 3.23.1.2.45 The system records details of the last update date and user id.
- 3.23.1.2.46 The Free Codes/Parties, Risk Details, Fault, History, Comments and Links buttons will not be available until the user successfully saves the new record to the database. The user may now enter the free code/parties information, risk details or Outage Links information (as specified in the Modify Outage Request use case in the TOGA – TOPAM Outage Requests Design Document).
- 3.23.1.2.47 The use case ends.

3.23.1.3 Alternative Flow 1 (Create Addition Standard Pending Outage – TO user)

- 3.23.1.3.1 The user tries to save the record when one of the mandatory fields has not been entered. The system gives an appropriate error message.
- 3.23.1.3.2 The user tries to save the record when one of the fields has an invalid value. The system gives an appropriate error message.
- 3.23.1.3.3 The user tries to save the record when the ERTS night field is not entered and the outage is continuous. The system gives an appropriate error message.

- 3.23.1.3.4 The user tries to save the record where the Rating Adjustment value has been entered but more than one asset is covered by the outage. The system gives an appropriate warning message.
- 3.23.1.3.5 The user tries to save a record with a Rating adjustment entered but the outage is not flagged as an In service outage. The system gives an appropriate warning message.
- 3.23.1.3.6 The freeze date has been passed for any plan year affected by the outage but the user has not entered the change description and change code fields. The system displays an appropriate error message.

3.23.1.4 Basic Flow 2 (Create Addition Standard Pending Outage – SO user)

- 3.23.1.4.1 This flow is identical to the flow for a TO user adding an Addition Standard Pending Outage.

3.23.1.5 Basic Flow 3 (Copy a Pending Outage)

- 3.23.1.5.1 The user selects a pending outage in the outage list (see use case List Outages 3.22 for details).
- 3.23.1.5.2 If the outage is an Addition outage then the system displays the 'Copy' button.
- 3.23.1.5.3 The user selects the 'Copy' button.
- 3.23.1.5.4 The system copies the pending outage to a new record but blanks out the Plan number. The purpose will be displayed as 'Addition' and the type will match the type of the outage being copied.
- 3.23.1.5.5 The system populates the list of basic outage references as those in the same group as the current basic outage (if applicable).
- 3.23.1.5.6 The user can enter a plan number. This must not be the number of an existing planned outage.
- 3.23.1.5.7 The status is set to 'Editable'.
- 3.23.1.5.8 The user can change the status to 'Awaiting Agreement' if required.
- 3.23.1.5.9 If the user wants to change the basic outage then the user may pick a basic reference code from the list and press the Update button. This will cause the fields listed in section 3.23.1.2.8 to be re-populated from the new basic outage reference. Any parties that have been manually added to the (copied) pending outage will be retained. Also if the old and new basic outages have the same external party then the external party comments will be retained.

3.23.1.5.10 The use case now continues exactly the same as Basic Flow 1 from step 3.11.1.2.13

3.23.1.6 Basic Flow 4 (Create Comment Pending Outage)

3.23.1.6.1 The system displays the screen 10302AddPlannedOutage.

3.23.1.6.2 The user can choose the plan year for the outage from the list.

3.23.1.6.3 The user must select the 'Basic' option and enter the reference code for a comment basic outage (in the user's licensed area if the user is a TO). If the user does not know the reference code then they can press the 'Find' button in order to access the Query Basic Outages screen.

3.23.1.6.4 The user selects the type 'Standard' for the new outage.

3.23.1.6.5 The user selects the 'Create New Pending Outage' option and presses the 'Create Outage' button.

3.23.1.6.6 The system displays the screen 10305EditPlannedOutage in Add mode. The screen title indicates that a Pending outage is being added. The Delete and Copy buttons are not displayed when the user is adding an outage.

3.23.1.6.7 The status is set to Editable. The Circuit/Description, TO, Demand at Risk, SO impact, Operational Remarks, TO parties, SO parties, external parties, external party comments, substations, assets, free codes, tower references and equipment owner fields are populated from the Basic Outage record if a basic reference has been specified.

3.23.1.6.8 If the basic outage reference has not been specified then the user may enter a Circuit/Description otherwise the field will display the Circuit/Description from the basic outage and will not be changeable here.

3.23.1.6.9 The In Service flag will be automatically checked and the user will not be able to uncheck it.

3.23.1.6.10 The system will display the request outage type – in this case it will display 'Addition/Comment'.

3.23.1.6.11 The creation of the outage will be exactly the same as creating a standard request outage as described in Basic Flow 1 from step 3.23.1.2.10

3.23.1.7 Basic Flow 5 (Create Update Pending Outage)

3.23.1.7.1 The system displays the screen 10302AddPlannedOutage.

- 3.23.1.7.2 The user must choose the 'Planned' option and enter the number of a planned outage in the user's licensed area. If the user does not know the reference code then they can press the 'Find' button in order to access the Query Planned Outages screen.
- 3.23.1.7.3 The user will not be able to choose the type of outage. This will be governed by the type of the selected planned outage.
- 3.23.1.7.4 The user selects the 'Create Pending to Update Outage' option and presses the 'Create Outage' button. See alternative flow 3.23.1.8
- 3.23.1.7.5 The system displays the screen 10305EditPlannedOutage in Add mode. The screen title indicates that a Pending outage is being added. The Delete and Copy buttons are not displayed when the user is adding an outage.
- 3.23.1.7.6 The fields on the new pending outage are pre-filled from the planned outage except for the status (which is set to Editable), and the type (which is set to 'Update/<same type as the pending outage>'). The change description and change code are set to blank. The Requesting Party defaults to the user's own party.
- 3.23.1.7.7 The system displays the Plan Number of the existing planned outage. The user cannot change this value.
- 3.23.1.7.8 The use case now continues exactly the same as Basic Flow 1 from step 3.23.1.2.11

3.23.1.8 Alternative Flow 5 (Create Update Pending Outage)

- 3.23.1.8.1 The planned outage already has an active request or pending outage associated with it. The system displays an error message.
- 3.23.1.8.2 The use case ends.

3.23.1.9 Basic Flow 6 (Create Cancellation Pending Outage)

- 3.23.1.9.1 The system displays the screen 10302AddPlannedOutage.
- 3.23.1.9.2 The user must enter choose the 'Planned' option and enter the number of a planned outage in the user's licensed area. If the user does not know the reference code then they can press the 'Find' button in order to access the Query Planned Outages screen.
- 3.23.1.9.3 The user will not be able to choose the type of outage. This will be governed by the type of the selected planned outage.
- 3.23.1.9.4 The user selects the 'Create Pending to Cancel Outage' option and presses the 'Create Outage' button. See alternative flow 3.23.1.10

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- 3.23.1.9.5 The system displays the screen 10305EditPlannedOutage in Add mode. The Delete and Copy buttons are not displayed when the user is adding an outage.
- 3.23.1.9.6 The fields on the new request outage are pre-filled from the planned outage except for the status (which is set to Editable), and the type (which is set to 'Cancel/<same type as the pending outage>'). The change description and change code are set to blank. The Requesting Party defaults to the user's own party.
- 3.23.1.9.7 The system displays the Plan Number of the existing planned outage. The user cannot change this value.
- 3.23.1.9.8 The user can change the status to Awaiting Agreement if required.
- 3.23.1.9.9 The user must enter a comment in the Eng/TO Comments field.
- 3.23.1.9.10 The user may enter an SO Comment.
- 3.23.1.9.11 All of the fields except for status and Eng/TO Comments and SO Comments are display only.
- 3.23.1.9.12 The user presses the Save button. The new request is saved to the database.

3.23.1.10 Alternative Flow 6 (Create Cancellation Pending Outage)

- 3.23.1.10.1 The planned outage already has an active request or pending outage associated with it. The system displays an error message.
- 3.23.1.10.2 The use case ends.

3.23.1.11 Basic Flow 7 (Create New Standard Planned Outage – only available to SO user)

- 3.23.1.11.1 The system displays the screen 10302AddPlannedOutage.
- 3.23.1.11.2 The user can choose the plan year for the outage from the list.
- 3.23.1.11.3 The user must choose 'Basic' and enter the reference code for a basic outage in the user's licensed area. If the user does not know the reference code then they can press the 'Find' button in order to access the Query Basic Outages screen.
- 3.23.1.11.4 The user selects the type 'Standard' for the new outage.
- 3.23.1.11.5 The user selects the 'Create New Planned Outage' option and presses the 'Create Outage' button.
- 3.23.1.11.6 The system displays the screen 10305EditPlannedOutage in Add mode. The screen title indicates that a Planned outage is being

added. The Delete and Copy buttons are not displayed when the user is adding an outage.

3.23.1.11.7 The status is set to Planned. The Circuit/Description, TO, Demand at Risk, SO impact, Operational Remarks, TO parties, SO parties, external parties, external party comments, substations, assets, free codes, tower references and equipment owner fields are populated from the Basic Outage record.

3.23.1.11.8 The user may enter a Plan Number for the outage.

3.23.1.11.9 The user cannot change the plan year.

3.23.1.11.10 The system will display the request outage type – in this case it will display 'Standard'.

3.23.1.11.11 The rest of this basic flow is the same as basic flow 1 from step 3.23.1.2.15

3.23.1.12 Basic Flow 8 (Create New Comment, TO Booking or SO Confidential Planned Outage)

3.23.1.12.1 The system displays the screen 10302AddPlannedOutage.

3.23.1.12.2 The user can choose the plan year for the outage from the list.

3.23.1.12.3 The user may elect to base the planned outage on a basic outage by choosing 'Basic' and entering the reference code for a basic outage in the user's licensed area. If the user does not know the reference code then they can press the 'Find' button in order to access the Query Basic Outages screen.

3.23.1.12.4 Alternatively the user can leave the basic reference blank.

3.23.1.12.5 An SO user will have the choice of selecting the outage type 'Comment' or 'SO Confidential'. A TO user will have the option of choosing a 'TO Booking'.

3.23.1.12.6 The user selects the 'Create New Planned Outage' option and presses the 'Create Outage' button.

3.23.1.12.7 The system displays the screen 10305EditPlannedOutage in Add mode. The screen title indicates that a Planned outage is being added. The Delete and Copy buttons are not displayed when the user is adding an outage.

3.23.1.12.8 The status is set to Planned.

3.23.1.12.9 If the user chose to base the planned outage on a basic outage then the Circuit/Description, TO, Demand at Risk, SO impact, Operational Remarks, TO parties, SO parties, external parties,

external party comments, substations, assets, free codes, tower references and equipment owner fields are populated from the Basic Outage record.

- 3.23.1.12.10 If the user did not base the planned outage on a basic outage then the fields listed in step 3.23.1.12.9 above will remain blank.
- 3.23.1.12.11 The user may enter a Plan Number for the outage.
- 3.23.1.12.12 The user cannot change the plan year.
- 3.23.1.12.13 The system will display the request outage type – in this case it will display ‘Comment’, ‘TO Booking’ or ‘SO Confidential’.
- 3.23.1.12.14 If the basic outage reference has not been specified then the user may enter a Circuit/Description otherwise the field will display the Circuit/Description from the basic outage and will not be changeable here.
- 3.23.1.12.15 The rest of this basic flow is the same as basic flow 1 from step 3.23.1.2.15 except that if the change is within the freeze date the user does not need to specify a change code or change description.

3.23.1.13 Basic Flow 9 (Create New DNO Outage – only possible for an SO user)

- 3.23.1.13.1 The system displays the screen 10302AddPlannedOutage.
- 3.23.1.13.2 The user can choose the plan year for the outage from the list.
- 3.23.1.13.3 The user may elect to base the planned outage on a basic outage by choosing ‘Basic’ and entering the reference code for a basic outage in the user’s licensed area. If the user does not know the reference code then they can press the ‘Find’ button in order to access the Query Basic Outages screen. The basic outage chosen must have a DNO equipment owner.
- 3.23.1.13.4 Alternatively the user can leave the basic reference blank.
- 3.23.1.13.5 The user selects the type ‘DNO Outage’ for the new outage.
- 3.23.1.13.6 The user selects the ‘Create New Planned Outage’ option and presses the ‘Create Outage’ button.
- 3.23.1.13.7 The system displays the screen 10305EditPlannedOutage in Add mode. The screen title indicates that a Planned outage is being added. The Delete and Copy buttons are not displayed when the user is adding an outage.
- 3.23.1.13.8 The status is set to Planned.

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- 3.23.1.13.9 If the user chose to base the planned outage on a basic outage then the Circuit/Description, TO, Demand at Risk, SO impact, Operational Remarks, TO parties, SO parties, external parties, external party comments, substations, assets, free codes, tower references and equipment owner fields are populated from the Basic Outage record.
- 3.23.1.13.10 If the user did not base the planned outage on a basic outage then the fields listed in step 3.23.1.12.9 above will remain blank.
- 3.23.1.13.11 The user may enter a Plan Number for the outage.
- 3.23.1.13.12 The user cannot change the plan year.
- 3.23.1.13.13 The system will display the request outage type – in this case it will display 'DNO Outage'.
- 3.23.1.13.14 If the basic outage reference has not been specified then the user may enter a Circuit/Description otherwise the field will display the Circuit/Description from the basic outage and will not be changeable here.
- 3.23.1.13.15 The rest of this basic flow is the same as basic flow 1 from step 3.23.1.2.15 except that if the change is within the freeze date the user does not need to specify a change code or change description.

3.23.1.14 Basic Flow 10 (Create new request/pending outage when viewing a planned outage)

- 3.23.1.14.1 The user is viewing/editing a planned outage in the 10305EditPlannedOutage screen.
- 3.23.1.14.2 The user selects the 'New Pending' or 'New Request' option and presses the 'Create' button.
- 3.23.1.14.3 If the user selected 'New Pending' then the system will redisplay the 10305EditPlannedOutage screen in Add mode showing a new (update) pending outage based upon the planned outage. This is a shortcut to using the 10302AddPlannedOutage screen and selecting the required options. All of the appropriate validation will be applied.
- 3.23.1.14.4 If the user selected 'New Request' then the system will display the 10210EditRequestOutage screen in Add mode showing a new (update) request outage based upon the planned outage. This is a shortcut to using the 10205AddRequestOutage screen and selecting the required options. All of the appropriate validation will be applied.

3.23.1.15 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Planned Outages' security operation.

3.23.1.16 Pre-conditions

None

3.23.1.17 Post-conditions

New outage written to the database.

3.23.1.18 Extension Points

None

3.24 Print Outage List**3.24.1.1 Brief Description**

The user wants to print a list of the outages currently displayed on the screen. This use case is effectively a shortcut to the user calling the General Outages Report and entering the correct report parameters.

3.24.1.2 Basic Flow

3.24.1.2.1 The user presses the Print button.

3.24.1.2.2 The system runs the General Outage Report using the parameters entered in 10303QueryPlannedOutages as the report parameters.

3.24.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'Run General Outage Report' security operation.

3.24.1.4 Pre-conditions

Outage records must be queried in the screen 10301ListPlannedOutages

3.24.1.5 Post-conditions

Outage Report printed.

3.24.1.6 Extension Points

None.

3.25 Manage Outage

3.25.1.1 Brief Description

When a Planned outage is amended any interested parties should be informed of the change. In addition, the user performing the change should be warned if the outage is a risk outage

3.25.1.2 Basic Flow

- 3.25.1.2.1 The user selects a planned outage for update.
- 3.25.1.2.2 The system displays the 10305EditPlannedOutage screen in edit mode.
- 3.25.1.2.3 The user changes one of the monitored fields (see use case Log Changes Details 3.27.1.3 for a list of the fields).
- 3.25.1.2.4 The system will inform the interested parties that the outage has changed (Note: The detail of this is yet to be determined)
- 3.25.1.2.5 If the outage is a risk outage then the user will be warned that the risk information should be checked.

3.25.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'Accept into Plan' security operation.

Validation: When updating a planned outage with a start date that is in the past the warning message should be "Planned start date is before today's date- This may be a fault outage, please update the fault outage if this is the case". This message should only show when an outage is first added to the plan for standard outages not for subsequent updates. (1162)

3.25.1.4 Pre-conditions

Outage records must be queried in the screen 10301ListPlannedOutages

3.25.1.5 Post-conditions

Interested parties informed of the change to the outage.

3.25.1.6 Extension Points

None.

3.26 Modify Outage

3.26.1.1 Brief Description

The user wished to modify the details of a pending or planned outage.

3.26.1.2 Basic Flow 1 (Modify Pending Outage)

- 3.26.1.2.1 The user selects a pending outage for update.
- 3.26.1.2.2 The system displays the 10305EditPlannedOutage screen in edit mode.
- 3.26.1.2.3 The system displays the selected pending outage in the screen.
- 3.26.1.2.4 If the pending outage is an Update then any fields which differ from those on the matching planned outage are highlighted. The user will be able to view the values from the planned outage record by hovering the pointer over the changed field (but not covering the existing text).
- 3.26.1.2.5 If the outage is at 'Awaiting Agreement' then none of the fields in the top section of the screen (the TO fields) will be updateable for an SO user. For a TO user none of the fields on an 'Awaiting Agreement' outage will be updateable.
- 3.26.1.2.6 The system will enable the Copy and Delete buttons.
- 3.26.1.2.7 If the user has 'View Cost Risk' or 'Edit Cost Risk' security permissions then the Cost Risk checkbox will be displayed, otherwise it will be hidden.
- 3.26.1.2.8 The user may change any of the fields except for the plan number, plan year, type.
- 3.26.1.2.9 The system will populate the list of basic outage references as those in the same group as the current basic outage (if not blank).
- 3.26.1.2.10 If the user wants to change the basic outage then the user may pick a basic reference code from the list and press the Update button. This will cause the fields listed in section 3.23.1.2.9 to be re-populated from the new basic outage reference. Any parties that have been manually added to the pending outage will be retained. Also if the old and new basic outages have the same external party then the external party comments will be retained.
- 3.26.1.2.11 If the basic outage reference has not been specified then the user may modify the Circuit/Description otherwise the field will display the Circuit/Description from the basic outage and will not be updateable.
- 3.26.1.2.12 If the user has 'Edit Cost Risk' security permission then the user will be able to change the cost risk checkbox.

- 3.26.1.2.13 If the user is a TO user then they will not be able to change the Requesting Party field.
- 3.26.1.2.14 The user presses the Save button. See alternative flow 3.26.1.3
- 3.26.1.2.15 The system performs business specific validation by calling use case Perform Business Checks (as specified in the TOGA – TOPAM Outage Requests Design Document).
- 3.26.1.2.16 The data is validated and saved to the database.
- 3.26.1.2.17 The system records details of the last update date and user id.
- 3.26.1.2.18 The use case ends.

3.26.1.3 Alternative Flow 1 (Modify Pending Outage)

- 3.26.1.3.1 The user tries to save the record when one of the mandatory fields has not been entered. The system gives an appropriate error message.
- 3.26.1.3.2 The user tries to save the record when one of the fields has an invalid value. The system gives an appropriate error message.
- 3.26.1.3.3 The user tries to save the record when the ERTS night field is not entered and the outage is continuous. The system gives an appropriate error message.
- 3.26.1.3.4 The user tries to save the record where the Rating Adjustment value has been entered but more than one asset is covered by the outage. The system gives an appropriate warning message.
- 3.26.1.3.5 The user tries to save a record with a Rating adjustment entered but the outage is not flagged as an In service outage. The system gives an appropriate warning message.
- 3.26.1.3.6 The freeze date has been passed for any plan year affected by the outage but the user has not entered the change description and change code fields. The system displays an appropriate error message.

3.26.1.4 Basic Flow 2 (for entry of Free code and Party information)

- 3.26.1.4.1 This basic flow is identical to ‘Basic Flow 4 (for entry of Free Codes/Parties – SO User)’ and ‘Basic Flow 5 (for entry of Free Codes/Parties – TO User)’ of the Modify Outage Request use case in the TOGA – TOPAM Outage Requests Design document.

3.26.1.5 Basic Flow 3 (for entry of Outage Links)

3.26.1.5.1 This basic flow is identical to 'Basic Flow 6 (for entry of Outage Links)' of the Modify Outage Request use case in the TOGA – TOPAM Outage Requests Design document.

3.26.1.6 Basic Flow 4 (Modify Standard Planned Outage – TO user)

- 3.26.1.6.1 The user selects a standard planned outage for update.
- 3.26.1.6.2 The system displays the 10305EditPlannedOutage screen in edit mode.
- 3.26.1.6.3 The system displays the selected planned outage in the screen.
- 3.26.1.6.4 The system will enable the Copy button but not the Delete button.
- 3.26.1.6.5 The user may change only change work involved, Work type, TO Planner, Eng/TO Comments, APA and PFW fields.
- 3.26.1.6.6 The user may also change the start time as long as the planned start date is a least a defined number of days away from the current system date. (The number of days will be defined in a system parameter),
- 3.26.1.6.7 If status is TBA, TO user is allowed to change the status code to 'Cancelled' without need to specify Change Code/Description
- 3.26.1.6.8 The user presses the Save button.
- 3.26.1.6.9 The data is validated and saved to the database.
- 3.26.1.6.10 The system records details of the last update date and user id.
- 3.26.1.6.11 The use case ends.

3.26.1.7 Basic Flow 5 (Modify Standard Planned Outage – SO user)

- 3.26.1.7.1 The user selects a standard planned outage for update.
- 3.26.1.7.2 The system displays the 10305EditPlannedOutage screen in edit mode.
- 3.26.1.7.3 The system displays the selected planned outage in the screen.
- 3.26.1.7.4 The system will enable the Copy and Delete buttons.
- 3.26.1.7.5 If the user has 'View Cost Risk' or 'Edit Cost Risk' security permissions then the Cost Risk checkbox will be displayed, otherwise it will be hidden.
- 3.26.1.7.6 The user may change any of the fields except for the plan number, plan year, type.

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- 3.26.1.7.7 The system will populate the list of basic outage references as those in the same group as the current basic outage.
- 3.26.1.7.8 If the user wants to change the basic outage then the user may pick a basic reference code from the list and press the Update button. This will cause the fields listed in section 3.23.1.2.9 to be re-populated from the new basic outage reference. Any parties that have been manually added to the planned outage will be retained. Also if the old and new basic outages have the same external party then the external party comments will be retained.
- 3.26.1.7.9 If the user has 'Edit Cost Risk' security permission then the user will be able to change the cost risk checkbox.
- 3.26.1.7.10 The user presses the Save button. See alternative flow 3.26.1.8
- 3.26.1.7.11 The system performs business specific validation by calling use case Perform Business Checks (as specified in the TOGA – TOPAM Outage Requests Design Document).
- 3.26.1.7.12 The data is validated and saved to the database.
- 3.26.1.7.13 If the user has modified the plan year, basic outage id, start date, end date, erts_day, erts_night, C/D, in service, rating adjustment or status then the system will create a history record to audit the change. A history will not be recorded if the only change to these fields is that the status has been changed to or from a status that is not 'Not Taken', 'TBA' or 'Cancelled'.
- 3.26.1.7.14 The system records details of the last update date and user id.
- 3.26.1.7.15 The use case ends.

3.26.1.8 Alternative Flow 5 (Modify Standard Planned Outage – SO user)

- 3.26.1.8.1 The user tries to save the record when one of the mandatory fields is blank. The system gives an appropriate error message.
- 3.26.1.8.2 The user tries to save the record when one of the fields has an invalid value. The system gives an appropriate error message.
- 3.26.1.8.3 The user tries to save the record when the ERTS night field is not entered and the outage is continuous. The system gives an appropriate error message.
- 3.26.1.8.4 The user tries to save the record where the Rating Adjustment value has been entered but more than one asset is covered by the outage. The system gives an appropriate warning message.

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3.26.1.8.5 The user tries to save a record with a Rating adjustment entered but the outage is not flagged as an In service outage. The system gives an appropriate warning message.

3.26.1.8.6 The freeze date has been passed for any plan year affected by the outage but the user has not entered the change description and change code fields. The system displays an appropriate error message.

3.26.1.9 Basic Flow 6 (Modify non Standard Planned Outage)

3.26.1.9.1 The user selects a non standard planned outage for update (i.e. TO Booking, Comment, DNO Outage or SO Confidential).

3.26.1.9.2 The system displays the 10305EditPlannedOutage screen in edit mode.

3.26.1.9.3 The system displays the selected planned outage in the screen.

3.26.1.9.4 If the outage is an 'SO Confidential' outage then highlight the outage type field in a bright colour.

3.26.1.9.5 The system will enable the Copy and Delete buttons.

3.26.1.9.6 If the user has 'View Cost Risk' or 'Edit Cost Risk' security permissions then the Cost Risk checkbox will be displayed, otherwise it will be hidden.

3.26.1.9.7 The user may change any of the fields except for the plan number, plan year, type.

3.26.1.9.8 The system will populate the list of basic outage references as those in the same group as the current basic outage (if not blank). If the outage is a DNO booking then the list of basic outages will only contain DNO basic outages in the same group as the current one.

3.26.1.9.9 If the user wants to change the basic outage then the user may pick a basic reference code from the list and press the Update button. This will cause the fields listed in section 3.23.1.2.9 to be re-populated from the new basic outage reference. Any parties that have been manually added to the planned outage will be retained. Also if the old and new basic outages have the same external party then the external party comments will be retained.

3.26.1.9.10 If the basic outage reference has not been specified then the user may modify the Circuit/Description otherwise the field will display the Circuit/Description from the basic outage and will not be updateable.

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- 3.26.1.9.11 If the user has 'Edit Cost Risk' security permission then the user will be able to change the cost risk checkbox.
- 3.26.1.9.12 The user presses the Save button. Alternative flow is as Alternative Flow 5 in section 3.26.1.8
- 3.26.1.9.13 The system performs business specific validation by calling use case Perform Business Checks (as specified in the TOGA – TOPAM Outage Requests Design Document).
- 3.26.1.9.14 The data is validated and saved to the database.
- 3.26.1.9.15 If the user has modified the plan year, basic outage id, start date, end date, erts_day, erts_night, C/D, in service, rating adjustment or status then the system will create a history record to audit the change. A history will not be recorded if the only change to these fields is that the status has been changed to or from a status that is not 'Not Taken', 'TBA' or 'Cancelled'.
- 3.26.1.9.16 The history is not recorded for an SO Confidential outage.
- 3.26.1.9.17 The system records details of the last update date and user id.
- 3.26.1.9.18 The use case ends.

3.26.1.10 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Planned Outage' security operation.

3.26.1.11 Pre-conditions

Outage records must be queried in the screen 10301ListPlannedOutages

3.26.1.12 Post-conditions

The outage record and associated records are changed.

3.26.1.13 Extension Points

None.

3.27 Add/Modify Commission, Risk and Fault Information**3.27.1.1 Brief Description**

As part of modifying the outage record the user wants to add or update the risk or fault information. Note that commissioning information will be handled in TOGA Phase 2.

3.27.1.2 Basic Flow 1 (for entry of Fault Information)

- 3.27.1.2.1 The user with 'Edit Fault Information' or 'View Fault Information' permission is editing a pending or planned outage in the 10305EditPlannedOutage screen
- 3.27.1.2.2 The system displays the Fault button.
- 3.27.1.2.3 The user selects the 'Fault' button.
- 3.27.1.2.4 The system displays the 10306EditFaultInfo' screen.
- 3.27.1.2.5 If the outage has the Fault checkbox checked then the system displays the fault information associated with the outage including the Fault Identifier that the system calculated when the outage was added or amended. If the Fault checkbox on the outage is unchecked then the fault identifier, responsible engineer, fault description, comment and SO comment fields will be hidden.
- 3.27.1.2.6 If the user has 'Edit Fault Information' permission then the system presents the fields in update mode and enables the Save button.
- 3.27.1.2.7 If the user disagrees with the system determined fault identifier then the user may change the value to another value from the list.
- 3.27.1.2.8 The user may enter the Responsible Engineer, Fault Description, Comment, SO Comment, Plant Equip Group and Reference if required and if the fields are displayed.
- 3.27.1.2.9 The user presses the save button.
- 3.27.1.2.10 The system saves the changed fields to the database and records the time, date and user against the outage record.
- 3.27.1.2.11 The use case ends.

3.27.1.3 Basic Flow 2 (for entry of Risk Information)

- 3.27.1.3.1 This basic flow is identical to 'Basic Flow 3 (for entry of Risk Details)' of the Modify Outage Request use case in the TOGA – TOPAM Outage Requests Design document.

3.27.1.4 Special Requirements (Secure Access Privilege)

Basic flow 1 accessible by the 'Edit Planned Outage' security operation.

Basic flow 2 accessible by the 'View Risk', 'Edit Risk', 'View Cost Risk' and 'Edit Cost Risk' security operations.

3.27.1.5 Pre-conditions

An outage record must be being edited in the screen 10305EditPlannedOutage

3.27.1.6 Post-conditions

The fault and risk information on the outage is modified.

3.27.1.7 Extension Points

None.

3.28 Log Changes Details**3.28.1.1 Brief Description**

The user has made a change to key fields of a Pending or Planned outage within a particular time period.

3.28.1.2 Basic Flow (Editing a Planned Outage)

- 3.28.1.2.1 The user is editing a planned outage in the 10305EditPlannedOutage screen.
- 3.28.1.2.2 The user modifies one or more of the plan year, basic outage id, start date, end date, erts_day, erts_night, C/D, in service, rating adjustment or status fields.
- 3.28.1.2.3 The user presses the save button.
- 3.28.1.2.4 If the outage is an SO Confidential then the system will simply save the data to the database and not record a history record. The use case ends.
- 3.28.1.2.5 If the outage is not an SO Confidential outage then the system will create a history record to audit the change. A history will not be recorded if the only change to these fields is a status change not to or from 'Not Taken', 'TBA' or 'Cancelled'.
- 3.28.1.2.6 The system will check which plan year(s) are affected by the outages (those which the range of the plan year intersects with the range of the outage. If the system date is after the freeze date of any effected plan year and the user has not entered a change description and change code then the system will display an error message and stop processing the action.
- 3.28.1.2.7 If the user had entered change description and change code then the system will record this information to the history record.
- 3.28.1.2.8 The use case ends.

3.28.1.3 Basic Flow (Editing a Pending Outage)

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- 3.28.1.3.1 The user is editing a pending outage in the 10305EditPlannedOutage screen.
- 3.28.1.3.2 The user changes the status of the outage
- 3.28.1.3.3 The user presses the save button.
- 3.28.1.3.4 The system will create a history record to audit the change.
- 3.28.1.3.5 The use case ends.

3.28.1.4 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Planned Outage' security operation.

3.28.1.5 Pre-conditions

An outage record must be being edited in the screen 10305EditPlannedOutage

3.28.1.6 Post-conditions

The outage record is modified and an outage history record is created.

3.28.1.7 Extension Points

None.

3.29 Record Notes**3.29.1.1 Brief Description**

The user wants to record some comments or notes against the outage record.

3.29.1.2 Basic Flow

- 3.29.1.2.1 While editing a pending or planned outage in the 10305EditPlannedOutage screen the user selects the 'Notes' button.
- 3.29.1.2.2 The system displays the 10308EditPlanComments' screen.
- 3.29.1.2.3 The system displays each of the notes that the user's role allows to be viewed. Any notes that the user's role allows to be edited are available to edit. Access to the notes are controlled by the 'View Initial Placement Notes', 'View Optimisation Notes', 'View Delivery Notes', 'View Control Room Notes', 'Edit Initial Placement Notes', 'Edit Optimisation Notes', 'Edit Delivery Notes' and 'Edit Control Room Notes' security operations.

- 3.29.1.2.4 If the outage start date has been changed since the most recently changed of the initial placement, optimisation or delivery notes were last updated then a warning message will be displayed by the most recently updated note.
- 3.29.1.2.5 If the outage was placed in the plan on or before the handover date then the initial placement notes should only be updateable if the system date is on or before the handover date.
- 3.29.1.2.6 The system presents the editable fields within an editable box allowing formatting to be applied to the text.
- 3.29.1.2.7 The user views and amends the comments fields as necessary.
- 3.29.1.2.8 The user presses the save button.
- 3.29.1.2.9 The system saves the changed fields to the database and records the time, date and user when the data was saved against each saved field.
- 3.29.1.2.10 The use case ends.

3.29.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'View Initial Placement Notes', 'View Optimisation Notes', 'View Delivery Notes', 'View Control Room Notes', 'Edit Initial Placement Notes', 'Edit Optimisation Notes', 'Edit Delivery Notes' and 'Edit Control Room Notes' security operations.

3.29.1.4 Pre-conditions

An outage record must be being edited in the screen 10305EditPlannedOutage

3.29.1.5 Post-conditions

The outage notes fields are updated and the field specific audit information is recorded.

3.29.1.6 Extension Points

None.

3.30 Agree / Disagree Outages

3.30.1.1 Brief Description

A user wishes to disagree or agree a pending outage into the plan.

3.30.1.2 Basic Flow 1 (Accepting a pending outage from the list – SO User)

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- 3.30.1.2.1 The user checks the Accept field on a number of pending outages in the list.
- 3.30.1.2.2 The user presses the Accept button.
- 3.30.1.2.3 The system checks that the status of each flagged outage is 'Awaiting Agreement'. If not then the system raises an error message.
- 3.30.1.2.4 The system checks that each selected pending outage that is flagged as a risk has got the risk information entered. A system parameter determines whether to apply this rule or not. If the rule is being applied then the system will either display a warning message or display an error message and prevent the outage from being accepted.
- 3.30.1.2.5 If outage links exist for the planned outage number then the system checks if the planned dates on the pending outage infringe one or more of the links. If so then a warning message is displayed stating the outage numbers for the links in violation.
- 3.30.1.2.6 For standard outages, if the freeze date, for the licensed area, has passed for any of the plan years affected by the selected pending outages then the system will check that each pending outages has a change code, a change description and a change requestor entered. If any of the pending outages do not have this information then the system will display an error message and the acceptance of the outages will fail.
- 3.30.1.2.7 The system will:
- create a Planned Outage record for each addition pending outage being accepted
 - update the planned outage for each update pending outage being accepted and
 - cancel the planned outage for each cancel pending outage being accepted.
- 3.30.1.2.8 For an update pending outage if any of the monitored fields are different to those on the associated planned outage then the system will create a change history record.
- 3.30.1.2.9 If the pending outage was created from a request outage then the status of the associated request outage will be updated to 'In Plan'. The system records the current system date/time in the 'last time the status was changed' field

3.30.1.2.10 The pending outages will be deleted once successfully accepted into the plan.

3.30.1.2.11 The Change Description and Change Code fields on the planned outage will be set to blank values.

3.30.1.2.12 The use case ends.

3.30.1.3 Basic Flow 2 (Accepting a pending outage from the edit screen – SO User)

3.30.1.3.1 The user has selected a pending outage for update in the 10305EditPlannedOutage screen.

3.30.1.3.2 The user presses the Accept button.

3.30.1.3.3 The rest of the basic flow is the same as Basic Flow 1 from step 3.30.1.2.3

3.30.1.4 Basic Flow 3 (Rejecting a pending outage from the edit screen – So User)

3.30.1.4.1 The user has selected a pending outage for update in the 10305EditPlannedOutage screen.

3.30.1.4.2 The user enters a Rejection Reason and presses the Reject button.

3.30.1.4.3 The system checks that the user has entered a Rejection Reason (if not the system would raise an error message).

3.30.1.4.4 The system sets the status of the pending outage record to 'Rejected Pending'.

3.30.1.4.5 The use case ends.

3.30.1.5 Basic Flow 4 (Accepting or rejecting a pending outage – TO user)

3.30.1.5.1 A TO user is not able to accept or reject a pending outage

3.30.1.5.2 The use case ends.-

3.30.1.6 Special Requirements (Secure Access Privilege)

Accessible by the 'Accept into Plan' security operation.

3.30.1.7 Pre-conditions

An outage record must be being viewed in the 10301ListPlannedOutages screen or being edited in the 10305EditPlannedOutage screen

3.30.1.8 Post-conditions

The outage is either accepted (in which case a planned outage is created/updated, the related request outage is updated and the pending outage deleted) or the pending outage status is set to 'Rejected Pending'.

3.30.1.9 Extension Points

None.

3.31 Change Outage Status

3.31.1.1 Brief Description

The user wants to change the status of a pending or planned outage to show the current condition of the outage.

3.31.1.2 Basic Flow 1 (Changing the status of a planned outage – SO User)

- 3.31.1.2.1 The user has selected a planned outage for update in the 10305EditPlannedOutage screen.
- 3.31.1.2.2 If the status of the outage is 'Started' or 'Complete' then the user will be unable to amend the status, otherwise the user may amend the status to either 'Planned', 'Not Taken', 'TBA' or 'Cancelled'.
- 3.31.1.2.3 The user presses the Save button.
- 3.31.1.2.4 If the user has changed the status to or from 'Not Taken', 'TBA' or 'Cancelled' and the change is within the freeze date of a plan year affected by the outage then the system will check that the user has entered a change description and a change code. If the user has not then the system displays an error message.
- 3.31.1.2.5 The system updates the database.
- 3.31.1.2.6 The system records a change history.
- 3.31.1.2.7 The use case ends.

3.31.1.3 Basic Flow 2 (Changing the status of a planned outage – TO User)

- 3.31.1.3.1 The TO user is not able to change the status of a planned outage
- 3.31.1.3.2 The use case ends.

3.31.1.4 Basic Flow 3 (Changing the status of a pending outage)

- 3.31.1.4.1 The user has selected a pending outage for update in the 10305EditPlannedOutage screen.

- 3.31.1.4.2 The user may change the status to either 'Editable' or 'Awaiting Agreement'.
- 3.31.1.4.3 The user presses the save button.
- 3.31.1.4.4 The system updates the database.
- 3.31.1.4.5 If the outage status has been changed from 'Rejected Pending' then the Rejection Reason field will be cleared.
- 3.31.1.4.6 The use case ends.

3.31.1.5 Special Requirements (Secure Access Privilege)

Basic Flow 1 accessible by the 'Edit Planned Outage' security operation.

Basic Flow 3 accessible by the 'Edit Pending Outage' security operation.

3.31.1.6 Pre-conditions

An outage record must be being edited in the 10305EditPlannedOutage screen

3.31.1.7 Post-conditions

The status of the outage is changed. If a planned outage then a change history is recorded.

3.31.1.8 Extension Points

None.

3.32 View Notes

3.32.1.1 Brief Description

The user wants to record some comments or notes against the outage record.

3.32.1.2 Basic Flow

- 3.32.1.2.1 While editing a pending or planned outage in the 10305EditPlannedOutage screen the user selects the 'Notes' button.
- 3.32.1.2.2 The system displays the 10308EditPlanComments' screen.
- 3.32.1.2.3 The system displays each of the notes that the user's role allows to be viewed. Any notes that the user's role allows to be edited are available to edit. Access to the notes are controlled by the 'View Initial Placement Notes', 'View Optimisation Notes', 'View Delivery Notes', 'View Control Room Notes', 'Edit Initial Placement Notes',

'Edit Optimisation Notes', 'Edit Delivery Notes' and 'Edit Control Room Notes' security operations.

3.32.1.2.4 If the outage start date has been changed since the most recent update of any of the initial placement, optimisation or delivery notes were last updated then a warning message will be displayed by the appropriate field.

3.32.1.2.5 The system presents the fields read only showing any formatting which has been applied to the text.

3.32.1.2.6 The use case ends.

3.32.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'View Initial Placement Notes', 'View Optimisation Notes', 'View Delivery Notes', 'View Control Room Notes', 'Edit Initial Placement Notes', 'Edit Optimisation Notes', 'Edit Delivery Notes' and 'Edit Control Room Notes' security operations.

3.32.1.4 Pre-conditions

An outage record must be being edited in the screen 10305EditPlannedOutage

3.32.1.5 Post-conditions

None.

3.32.1.6 Extension Points

None.

3.33 Cancel Outage

3.33.1.1 Brief Description

The user wants to cancel a pending or planned outage.

3.33.1.2 Basic Flow 1 (Cancelling a planned outage – SO User)

3.33.1.2.1 The user has selected a planned outage for update in the 10305EditPlannedOutage screen.

3.33.1.2.2 If the status of the outage is 'Started' or 'Complete' then the user will be unable to cancel the outage. otherwise the user changes the status to either 'Cancelled'.

3.33.1.2.3 The user presses the Save button.

- 3.33.1.2.4 If the change is within the freeze date of a plan year affected by the outage then the system will check that the user has entered a change description and a change code. If the user has not then the system displays an error message.
- 3.33.1.2.5 If the planned outage is linked to a child outage or a duplicate outage then the system will display an error message. It will not be possible to cancel the outage until the link is removed.
- 3.33.1.2.6 For other link types the user will be warned but the links will be physically deleted when the outage is cancelled.
- 3.33.1.2.7 The system updates the database.
- 3.33.1.2.8 The system records a change history.
- 3.33.1.2.9 The use case ends.

3.33.1.3 Basic Flow 2 (Cancelling a planned outage – TO User)

- 3.33.1.3.1 The TO user is not able to cancel a planned outage
- 3.33.1.3.2 The use case ends.

3.33.1.4 Basic Flow 3 (Cancelling a pending outage)

- 3.33.1.4.1 It is not possible to cancel a pending outage. The record should be deleted instead.
- 3.33.1.4.2 The use case ends.

3.33.1.5 Special Requirements (Secure Access Privilege)

Basic Flow 1 accessible by the 'Edit Planned Outage' security operation.

3.33.1.6 Pre-conditions

An outage record must be being edited in the 10305EditPlannedOutage screen

3.33.1.7 Post-conditions

The status of the outage is changed and a planned outage then a change history is recorded.

3.33.1.8 Extension Points

None.

3.34 Delete Outage

3.34.1.1 Brief Description

The user wants to delete a pending or planned outage.

3.34.1.2 Basic Flow 1 (Deleting a planned outage – SO User)

- 3.34.1.2.1 The user has selected a planned outage for update in the 10305EditPlannedOutage screen.
- 3.34.1.2.2 If the status of the outage is 'Started' or 'Complete' then the user will be unable to delete the outage. An SO user will only be able to delete an 'SO Confidential' or 'DNO Outage'. A TO user will only be able to delete a 'TO Booking' outage'. The user presses the Delete button.
- 3.34.1.2.3 If the planned outage is linked to a child outage or a duplicate outage then the system will display an error message. It will not be possible to delete the outage until the link is removed.
- 3.34.1.2.4 For other link types the user will be warned but the links will be physically deleted along with the outage.
- 3.34.1.2.5 The system physically deletes the outage record.
- 3.34.1.2.6 The use case ends.

3.34.1.3 Basic Flow 2 (Deleting a planned outage – TO User)

- 3.34.1.3.1 The TO user is not able to delete a planned outage
- 3.34.1.3.2 The use case ends.

3.34.1.4 Basic Flow 3 (Deleting a pending outage)

- 3.34.1.4.1 The user has selected a pending outage for update in the 10305EditPlannedOutage screen.
- 3.34.1.4.2 The user presses the Delete button.
- 3.34.1.4.3 If the outage has links then the same validation as in Basic Flow 1 (3.34.1.2) will be applied.
- 3.34.1.4.4 The pending outage is physically deleted from the database.
- 3.34.1.4.5 If there is a request outage associated with the pending outage then the status of the request outage will be set to a 'pending deleted' status (the exact status will be defined by a system parameter).
- 3.34.1.4.6 The use case ends.

3.34.1.5 Special Requirements (Secure Access Privilege)

Basic Flow 1 accessible by the 'Edit Planned Outage' security operation.

3.34.1.6 Pre-conditions

An outage record must be being edited in the 10305EditPlannedOutage screen

3.34.1.7 Post-conditions

The status of the outage is changed and a planned outage then a change history is recorded.

3.34.1.8 Extension Points

None.

3.35 View Change History**3.35.1.1 Brief Description**

This use case allows the user to view a history of all of the changes made to the monitored fields on a planned outage. If the changes were made within the freeze date then the history will hold the reason why the changes were made.

3.35.1.2 Basic Flow 1 (Viewing the history from the planned outage list)

- 3.35.1.2.1 The user is viewing a number of planned outages in the 10301ListPlannedOutages screen.
- 3.35.1.2.2 The system displays a History link for each planned outage which has one or more change history records.
- 3.35.1.2.3 The user selects the link.
- 3.35.1.2.4 The system displays the 10314ViewPlannedHistory screen.
- 3.35.1.2.5 The system populates the screen with all of the change history records for the chosen planned outage. The records are displayed in decreasing change date order.
- 3.35.1.2.6 The system displays links on the outage numbers.
- 3.35.1.2.7 The user can view the data.
- 3.35.1.2.8 The user selects the link for one of the records.
- 3.35.1.2.9 The system displays the 10305EditPlannedOutage screen in read only mode showing the monitored fields from the chosen history and the remainder of the fields from the current planned outage record.

3.35.1.2.10 The use case ends.

3.35.1.3 Basic Flow 2 (Viewing the history from editing/viewing a planned outage)

3.35.1.3.1 The user is viewing or editing a planned outage in the 10305EditPlannedOutage screen.

3.35.1.3.2 The system enables the History button if the outage has one or more change history records.

3.35.1.3.3 The user selects the history button.

3.35.1.3.4 The rest of this basic flow is identical to basic flow 1 from step 3.35.1.2.4

3.35.1.3.5 The use case ends.

3.35.1.4 Special Requirements (Secure Access Privilege)

Accessible by the 'View Planned Outage' and 'Edit Planned Outage' security operations.

3.35.1.5 Pre-conditions

An outage record must be being viewed in the 10301ListPlannedOutages screen or being viewed or edited in the 10305EditPlannedOutage screen.

3.35.1.6 Post-conditions

None

3.35.1.7 Extension Points

None.

3.36 Update Actuals

3.36.1.1 Brief Description

A control room user will enter an actual start date, end date and control room notes.

3.36.1.2 Basic Flow

3.36.1.2.1 The user is viewing a number of planned outages in the 10301ListPlannedOutages screen.

3.36.1.2.2 The user selects a planned outage for update.

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- 3.36.1.2.3 The system displays the 10305EditPlannedOutage screen and displays the chosen planned outage in update mode.
- 3.36.1.2.4 The user enters the start date.
- 3.36.1.2.5 The user may also enter the end date.
- 3.36.1.2.6 The user presses the Save button.
- 3.36.1.2.7 The system checks that the end date (if entered) is not before the start date.
- 3.36.1.2.8 The system checks that the user has not entered an end date when the start date is still blank.
- 3.36.1.2.9 If the user has only entered a start date then the system sets the status to 'Started'. If the user entered the end date then the system sets the status to 'Complete'.
- 3.36.1.2.10 The system will record a change history. The system will not prompt the user for a change code and change description but if entered will record them on the change history.
- 3.36.1.2.11 The user presses the Notes button.
- 3.36.1.2.12 The system displays the 10308EditPlanComments screen.
- 3.36.1.2.13 If the user has 'View Control Room Notes' or 'Edit Control Room Notes' security permission then the system displays the Control Room Notes field in either read only or update mode. If the fields are displayed in update mode then the system enables the text formatting functionality.
- 3.36.1.2.14 The user amends/enters the notes as required.
- 3.36.1.2.15 The user presses the Save button.
- 3.36.1.2.16 The system saves the notes to the database and updates the field specific audit information, for each amended field, with the user id and date/time of the amendment.
- 3.36.1.2.17 The use case ends.

3.36.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'Edit Planned Outage', 'View Control Room Notes' or 'Edit Control Room Notes' security operations.

3.36.1.4 Pre-conditions

An outage record must be being viewed in the 10301ListPlannedOutages screen.

3.36.1.5 Post-conditions

Outage record updated.

3.36.1.6 Extension Points

None.

3.37 Download Outage File**3.37.1.1 Brief Description**

The user requires a list of their pending and planned outages. It is expected that this is to keep their internal systems in line with TOGA.

Note: The details of the download is given in the TOGA – TOPAM Reports Design document.

3.37.1.2 Basic Flow

- 3.37.1.2.1 The user selects the Download Outages option from the reports menu.
- 3.37.1.2.2 The user enters required parameters.
- 3.37.1.2.3 The system creates a csv file and presents it to the user.
- 3.37.1.2.4 The user views or saves the file as required.
- 3.37.1.2.5 The use case ends.

3.37.1.3 Special Requirements (Secure Access Privilege)

Accessible by the 'Download Outages' security operation.

3.37.1.4 Pre-conditions

None

3.37.1.5 Post-conditions

The file is created.

3.37.1.6 Extension Points

None.

3.38 1401 Adhoc Reporting

3.38.1 Description

The adhoc reporting will be used when the user wants to use a report or data download that is not supported by one of TOGA's standard reports. This adhoc reporting will be performed using Business Objects. A user with Business Objects report creation rights will create a new report. A user with Business Objects report running rights will then be able to run the report against the TOGA database.

3.39 1402 Publish Static Reports to Web

3.39.1 Description

The Transmission Outage Report will be run by the SO on a regular basis and the resulting report held on the application server. This generated report will be accessible to external data viewers.

3.39.2 Process

3.39.2.1 Basic Flow

- 3.39.2.1.1 The user selects the Transmission Outage Report from the TOGA reports menu.
- 3.39.2.1.2 The system provides the user with the report parameter screen.
- 3.39.2.1.3 The user enters the required date range for the report, specifies the last run date and generates the report.
- 3.39.2.1.4 The user chooses to publish the report.
- 3.39.2.1.5 The system makes the static report available for viewing by use case '1405 View Static Reports on Web' in section 3.41.1

3.39.2.2 Special Requirements (Secure Access Privilege)

- 3.39.2.2.1 User must have permission to publish the report.

3.39.2.3 Pre-conditions

- 3.39.2.3.1 None

3.39.2.4 Post-conditions

- 3.39.2.4.1 Report published for viewing

3.39.2.5 Extension Points

3.39.2.5.1 None

3.40 1403 Bar Chart Reporting

3.40.1 Description

This requirement will be covered in TOGA Phase 2.

3.41 1404 Run Standard Report

3.41.1 Description

The user selects a standard report from the reports menu, enters the required parameters and runs the report. The data comprising the report will be queried from the database and the report will be presented to the user. Access to specific reports will be restricted by the system security.

The reports and their TOGA release numbers are: -

| Report Name | Planned Release |
|--|------------------------|
| DAILY OUTAGE REPORT | 1 |
| WEEKLY OUTAGE REPORT (including generation outages) | 1 |
| GENERAL OUTAGE REPORT (including generation outages) | 1 |
| CHANGES REPORT | 1 |
| TORF AND PENDING OUTAGE LISTING REPORT | 1 |
| TRANSMISSION OUTAGE PLAN | 1 |
| BASIC OUTAGE REPORT | 1 |
| CONTROL ROOM MONITORING REPORT | 1 |
| OUTAGE HISTORY REPORT | 2 |
| CONTROL ROOM WORKLOAD REPORT | 1 |
| REPORT FOR RECS | 1 |
| PLANNED CHANGE HISTORY REPORT | 2 |
| PENDING FILE LISTING | 1 |
| ACTUAL OUTAGES TAKEN | 2 |
| CHANGED OUTAGES | 1 |
| SINGLE OUTAGE REPORT | 2 |
| ALL OUTAGE DATA | 1 |
| SINGLE REQUEST OUTAGE REPORT | 1 |
| LIST REQUEST OUTAGE REPORT | 1 |
| GENERAL MONITORING REPORT | 2 |
| AVAILABILITY/RELIABILITY REPORTS | 1 |
| AVERAGE CIRCUIT UNRELIABILITY REPORT | 1 |
| ACTUAL OUTAGES TAKEN (NOC) | 1 |
| TOPAM-MIMS DOWNLOAD REPORT | 1 |
| NUMBER & AVG DURATION OF OUTAGES REPORT | 1 |
| Differences Report | 2 |
| 'Have I taken this NASAP combination before?' report | 2 |
| Report to download selected period into Word. | 2 |
| Transmission outage report | 2 |

| | |
|------------------|---|
| Bar Chart Report | 2 |
|------------------|---|

Details of these reports will be in the TOPAM Reports Design Document (document reference 12).

3.42 1405 View Static Reports on Web

3.42.1 Description

The external TOGA users will access TOGA and view the static Transmission Outage Report generated by the SO in use case '1402 Publish Static Reports to Web'.

3.42.2 Process

3.42.2.1 Basic Flow

3.42.2.1.1 The user chooses the option to view the published Transmission Outage Report.

The system presents the user with the report published in use case '1402 Publish Static Reports to Web'.

3.42.2.2 Special Requirements (Secure Access Privilege)

3.42.2.2.1 None

3.42.2.3 Pre-conditions

3.42.2.3.1 Report must have been previously been published to the web.

3.42.2.4 Post-conditions

3.42.2.4.1 User can view or download report.

3.42.2.5 Extension Points

None.

3.43 Transmission Outage Management

3.43.1 10306 Add/Modify Commission, Risk and Fault Information

3.43.1.1 Brief Description

3.43.1.2 Basic Flow (Define outage as requiring commissioning information)

- 3.43.1.2.1 The user is editing a planned or pending outage.
- 3.43.1.2.2 The user sets the Commissioning Information Required checkbox and presses the Save button.
- 3.43.1.2.3 The use case ends

3.43.1.3 Basic Flow (Add commissioning information to outage)

- 3.43.1.3.1 The user is editing a planned or pending outage which has the Commissioning Information Required checkbox checked (This can either have been checked directly or have been carried forward from the request outage).
- 3.43.1.3.2 The user accesses the Links hyperlink
- 3.43.1.3.3 The system displays the Outage Links screen (10220OutageLinks) and displays any existing transmission outage links, generation outage links and Commissioning Record links that exist for the outage.
- 3.43.1.3.4 The user enters the record id for a commissioning record and presses the Add button.
- 3.43.1.3.5 Alternatively the user may press the Find button which causes the system to display the Query Commissioning Information screen allowing the user to find the required commissioning information record. The user then presses the Add button to add the link.
- 3.43.1.3.6 If the commissioning record is not for the same licensed area as the outage then an error message will be displayed and the link not allowed.
- 3.43.1.3.7 If the commissioning record is of type 'System Change' then an error message will be displayed if the effective date is not between the start and end dates for the outage and the link will not be allowed.
- 3.43.1.3.8 If the commissioning record is of type 'Commissioning' then a warning message will be displayed if the effective date is more than two days before the outage end date or after the outage end date.
- 3.43.1.3.9 The system refreshes the screen showing the commission record as being linked to the outage.
- 3.43.1.3.10 The use case ends

3.43.1.4 Basic Flow (Remove commissioning information from an outage)

- 3.43.1.4.1 The user is editing a planned or pending outage which has the Commissioning Information Required checkbox checked.
- 3.43.1.4.2 The user accesses the Links hyperlink
- 3.43.1.4.3 The system displays the Outage Links screen (10220OutageLinks) and displays any existing transmission outage links, generation outage links and Commissioning Record links that exist for the outage.
- 3.43.1.4.4 The user presses the delete (bin) icon next to the commissioning record that is no longer required to be associated with the outage.
- 3.43.1.4.5 The system refreshes the screen showing that the commission record is no longer associated with the outage
- 3.43.1.4.6 The use case ends.

3.43.1.5 Special Requirements (Secure Access Privilege)

The user must have Edit Planned Outage security permission.

3.43.1.6 Pre-conditions

The user must have queried a planned or pending outage and have accessed it in edit mode.

3.43.1.7 Post-conditions

The outage is defined as allowing commission information and commissioning records have been added and removed from the outage.

3.44 Commissioning Assets**3.44.1 10500 Add Commissioning Information Record****3.44.1.1 Description**

The user wants to create a new commissioning record.

3.44.1.2 Basic Flow

- 3.44.1.2.1 The system displays the screen 10503AddEditCommissioning
- 3.44.1.2.2 The user must enter an effective date for the commissioning
- 3.44.1.2.3 The user must pick a status for the commissioning record from 'Active', 'Part Complete', 'Complete', 'Cancelled'.

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- 3.44.1.2.4 The user must select a Activity from the drop down list
- 3.44.1.2.5 The user must state whether the commissioning work is 'Temporary' or 'Permanent' by choosing a value from the list.
- 3.44.1.2.6 The user may choose a responsible engineer from the available list.
- 3.44.1.2.7 The user must state whether the commissioning is for 'New' equipment or for a 'Replacement' of existing equipment by choosing a value from the list.
- 3.44.1.2.8 The user must specify the Licensed Area for the record by choosing from the list.
- 3.44.1.2.9 The user must enter a Nature of Change (comment) for the record.
- 3.44.1.2.10 The user may set the checkbox on any diagrams/schedules etc. that are required for the commissioning. The user may enter a comment for each requirement.
- 3.44.1.2.11 For any items that are received the user may check the received checkbox and optionally enter a date of receipt. The system will automatically record which user set each received checkbox.
- 3.44.1.2.12 The user presses the 'Save' button.
- 3.44.1.2.13 The system generates the next Record Id number (using the prefix 'COM' and a system generated sequential number) and displays it on the screen.
- 3.44.1.2.14 The commissioning record is added to the database. The system also saves a history record holding the user id, the date/time that the record was inserted and the status and effective date values.
- 3.44.1.2.15 The user may associate a number of substations with the commissioning record by either typing in a substation id and pressing the Add button, or by pressing the Find button and using the 'Query Substation' screen to find the required substation and then pressing the Add button to add it to the commissioning record.
- 3.44.1.2.16 The user may associate a number of assets with the commissioning record by either typing in an asset id and pressing the Add button, or by pressing the Find button and using the 'Query Asset' screen to find the required asset and then pressing the Add button to add it to the commissioning record.
- 3.44.1.2.17 The user may link the commissioning record to one or more planned outages by typing in an outage number and pressing the Add button. The system will validate that the dates are compatible (effective date must be between the start and end date for a 'System Change' commission record or no more than 2 days prior

to the end date for a 'Commissioning' commissioning record). If the number is a valid outage number and the dates are compatible then the outage will be linked and the screen updated to show the details of the linked outages. If the outage number entered is invalid or the dates are incompatible then an error message will be given.

3.44.1.2.18 The use case ends.

3.44.1.3 Special Requirements (Secure Access Privilege)

Accessible by Edit Commissioning security operation.

3.44.1.4 Pre-conditions

None

3.44.1.5 Post-conditions

Commissioning record is successfully created and stored in database.

3.44.1.6 Extension Points

None.

3.44.2 10501List Commissioning Information Records

3.44.2.1 Brief Description

The user wants to list the commissioning records in order to view or amend the data.

3.44.2.2 Basic Flow

- 3.44.2.2.1 The system displays the screen 10501QueryCommissioning
- 3.44.2.2.2 The user may enter the record id of the commissioning record they wish to query.
- 3.44.2.2.3 The user can enter a data range which will restrict the query to commissioning records with an effective date within the specified range.
- 3.44.2.2.4 The user may choose to restrict the query to display only temporary or only permanent commissioning records.
- 3.44.2.2.5 The user may choose to restrict the query to display only commissioning of new equipment or commissioning or replacement equipment.

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- 3.44.2.2.6 The user may choose to restrict the query to display only system change or commissioning records.
- 3.44.2.2.7 The user may choose to restrict the query to display only records of a particular status.
- 3.44.2.2.8 The user may choose to restrict the query to display only records associated with a particular SO planner.
- 3.44.2.2.9 The user may choose to display only commissioning records which are not yet associated with a transmission outage by checking the 'Show all records not associated with an outage' checkbox.
- 3.44.2.2.10 The user may choose to display only commissioning records which have had their effective date or status modified (and hence have a history record) since a particular entered date.
- 3.44.2.2.11 The user can choose to only display commissioning records requiring particular information. This is achieved by checking a number of the checkboxes. The query will only return commissioning record which require all of the checked items.
- 3.44.2.2.12 In addition the user can opt to only display commissioning records where one of the chosen requirements are overdue. For example if the user chooses to view commissioning records requiring an Operational Diagram and a HVSCC and checks the 'Only show records with an overdue requirement' checkboxes then TOGA will only display commissioning records which require and Operation Diagram and a HVSCC and at least one of these is overdue.
- 3.44.2.2.13 The user can choose to search for commissioning records referencing a particular substation by choosing the 'Substation' option, entering a valid substation code and pressing the Add button. The substation will be added to the list of substations on the screen. If the user does not know the substation code they can use the 'Find' button to allow them to search for the substation. This will bring back a substation code and automatically add it to the list.
- 3.44.2.2.14 Alternatively the user may enter a substation group. This is achieved by selecting the 'Group' option, entering a substation group code and pressing the Add button. The substation group code is added to the substation list. If the user does not know the substation group code they can use the Find button, which displays the substation group list screen for where the user may pick a substation group and the system will add it to the substation list.
- 3.44.2.2.15 If the user wishes to remove a selected substation from the list then they should click on the hyperlink for the substation. The system will remove the substation from the query list.

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- 3.44.2.2.16 The user may enter the initial characters of a transmission outage number in order for the query to only return commissioning records which are linked to transmission outages starting with the entered characters.
- 3.44.2.2.17 The user can pick a number of free codes from the list and select whether commissioning records associated with outages with any or all of the selected free codes are returned.
- 3.44.2.2.18 The user can pick a number of SO and TO parties from the list and select whether commissioning records associated with outages with any or all of the selected parties are returned.
- 3.44.2.2.19 The user must specify the whether the commissioning records are to be ordered by Record Id or increasing Effective Date (defaults to increasing Record Id order)
- 3.44.2.2.20 User presses the List button
- 3.44.2.2.21 The system displays the screen 10502ListCommissioning.
- 3.44.2.2.22 The system displays a list of commissioning records in ascending number or date order depending on order selected in screen 10501QueryCommissioning. The commissioning records listed match the search criteria entered by the user. If the user is a TO user then the records displayed will be limited to those in the user's licensed area.
- 3.44.2.2.23 If the commissioning record is of type 'System Change' and the effective date is not between the start and end dates of all the linked outages then the effective date will be displayed in red with an exclamation mark next to it. Similarly if the commissioning record is of type 'Commissioning' and the effective date is not within the 2 days prior to, or on, the end date of any linked outages then the effective date will be displayed in red with an exclamation mark next to it.
- 3.44.2.2.24 If any of the required items are overdue then the required flag (the 'Y') will be displayed in red.
- 3.44.2.2.25 The system displays the Record Id fields as hyperlinks. If the user has Edit Commissioning security permissions then these links will take the user to the edit commission record screen in edit mode. If the user has only got View Commissioning security permission then they will only be able to access the edit commission record screen in read only mode.
- 3.44.2.2.26 The use case ends.

3.44.2.3 Special Requirements (Secure Access Privilege)

Accessible by View Commissioning and Edit Commissioning security operations.

3.44.2.4 Pre-conditions

None

3.44.2.5 Post-conditions

None

3.44.2.6 Extension Points

10502 View Commissioning Information.

10503 Modify Commissioning Information.

10504 Print Commissioning Information.

3.44.3 10502 View Commissioning Information**3.44.3.1 Brief Description**

The user wants to view the details of the commissioning record.

3.44.3.2 Basic Flow

3.44.3.2.1 The user selects the commissioning record from the list.

3.44.3.2.2 The system displays the screen 10503AddEditCommissioning.

3.44.3.2.3 The system displays the commissioning record in read only format without any Delete or Save buttons.

3.44.3.2.4 The system displays details of the outages that are linked to the commissioning record. If the user selects one of the outage hyperlinks then the planned outage will be displayed in a separate pop-up window.

3.44.3.2.5 The use case ends.

3.44.3.3 Special Requirements (Secure Access Privilege)

Accessible by View Commissioning security operation.

3.44.3.4 Pre-conditions

Commissioning record must be queried in the screen 10502ListCommissioning and the user must have View Commissioning security permission but no Edit Commissioning security permission.

3.44.3.5 Post-conditions

None

3.44.3.6 Extension Points

None.

3.44.4 10503 Modify Commissioning Information**3.44.4.1 Brief Description**

The user wants to modify the details of a commissioning record.

3.44.4.2 Basic Flow

- 3.44.4.2.1 The user selects the commissioning record for modification
- 3.44.4.2.2 The system displays the screen 10503AddEditCommissioning
- 3.44.4.2.3 The system populates the screen with the details of the commissioning record and brief details of the outages that the commissioning record is linked to.
- 3.44.4.2.4 For any required item TOGA will display the expected receipt date. If this date is in the past and the item has not been received then the date will be displayed in red. The definition of expected date will be calculated as a specified number of weeks for the specific item (as defined in the validation parameters) ahead of the effective date of the commissioning record.
- 3.44.4.2.5 The user may change the Effective Date, the Status, the Activity, Nature of Change and whether the commissioning is Temporary/Permanent, Licensed Area and New/Replacement. The user cannot leave any of these fields blank.
- 3.44.4.2.6 The user may add or delete substations, assets and linked outages and any of the Required or Comment fields.
- 3.44.4.2.7 The user can check the Received checkbox for any required items that have been received. The user can also enter a receipt date for any of the items but this is not mandatory.
- 3.44.4.2.8 The user presses the Save button.
- 3.44.4.2.9 If the user has checked any of the Received checkboxes then the system will store the users user_id against the item.
- 3.44.4.2.10 If the user has modified either the effective date or status then the system will record a history record of who changed them and when.

3.44.4.2.11 The system saves the updated data to the database.

3.44.4.2.12 The use case ends.

3.44.4.3 Special Requirements (Secure Access Privilege)

Accessible by Edit Commissioning security operation.

3.44.4.4 Pre-conditions

Commissioning record must have been queried in the List Commissioning Information screen.

3.44.4.5 Post-conditions

Commissioning record is successfully updated and stored in database.

3.44.4.6 Extension Points

None.

3.44.5 10504 Print Commissioning Information

3.44.5.1 Brief Description

The user wants to print a listing report of the commissioning information records.

3.44.5.2 Basic Flow

3.44.5.2.1 The system displays the screen 10501QueryCommissioning

3.44.5.2.2 The user enters query data in an identical way as in the Basic Flow for 10501 List Commissioning Information Records (see sections 3.44.2.2.2 - 3.44.2.2.18 above)

3.44.5.2.3 The user presses the 'Print' button

3.44.5.2.4 The system displays the queried commissioning records in exactly the same format as the 10502ListCommissioning screen but as a pdf in a separate browser window.

3.44.5.2.5 The use case ends.

3.44.5.3 Special Requirements (Secure Access Privilege)

Accessible by View Commissioning or Edit Commissioning security operation.

3.44.5.4 Pre-conditions

None

3.44.5.5 Post-conditions

None

3.44.5.6 Extension Points

None.

3.44.6 10505 Delete Commissioning Information**3.44.6.1 Brief Description**

The user wants to delete a commissioning record.

3.44.6.2 Basic Flow

- 3.44.6.2.1 The user selects the commissioning record
- 3.44.6.2.2 The system displays the screen 10503AddEditCommissioning
- 3.44.6.2.3 The system populates the screen with the details of the commissioning record.
- 3.44.6.2.4 The user presses the Delete button.
- 3.44.6.2.5 The system deletes the commissioning record and the linking information.
- 3.44.6.2.6 The use case ends.

3.44.6.3 Special Requirements (Secure Access Privilege)

Accessible by Edit Commissioning security operation.

3.44.6.4 Pre-conditions

Commissioning record must have been queried in the List Commissioning Information screen.

3.44.6.5 Post-conditions

Commissioning record and any associated commission-outage link records are successfully deleted from the database.

3.44.6.6 Extension Points

None.

4. SCREENS

4.1 1010101QueryBasicOutages

4.1.1 Security Operation Access

Accessible by ViewBasicOutages and EditBasicOutages security operations.

4.1.2 Initialisation

The drop lists are populated as follows:

| Screen Field | Population details |
|-------------------|---|
| Licensed Area | TRA_OWNER.TRA_OWNER_ID – If the user is an SO user then display all records. If the user is a TO user then only display their TRA_OWNER_ID in the list. Include a blank entry in the list |
| Status | Fixed values |
| DNO Outage | Fixed values |
| Parties | If user is an SO user then include all records from TOPAM_SO_PARTY table and TOPAM_TO_PARTY table and EXT_PARTY view. If the user is a TO user then show all records from the TOPAM_SO_PARTY table but only show records from TOPAM_TO_PARTY and EXT_PARTY where the TRA_OWNER matches the users TO value. |
| Substation Groups | SUBSTATION_GROUP.SUBSTATION_GROUP_ID – all records. |

4.1.3 Processing

All fields are optional entry.

The date range checkbox determines whether all substations intersecting with the date range should be included or just those starting or ending in the date range.

The list of substations can be populated by the user choosing 'Substation', entering one or more (comma separated) substation codes in the field and then pressing the 'Add' button to add them to the list. Alternatively the user can press the 'Find' button, which will take the user to the substation query screen (1010301QuerySubStns) and allow them to find a substation which will then be brought back to this screen for inclusion in the substation list.

As a shortcut to adding substations the user can enter a substation group by choosing 'Group', entering a substation group code in the field and pressing the Add button to add the group to the list. Alternatively the user can press the 'Find' button, which will take the user to the substation group list screen (1010305ListSubStnGroups) and allow them to find a substation group, which will then be brought back to this screen for inclusion in the list.

If the 'Outage must include all Substations?' checkbox is selected then the query will only return outages which include all of the substations in the list. If the checkbox is unchecked then any outages that contain one or more of the substations will be selected.

4.1.4 Use Cases Covered

'List Basic Outages' (along with 1010102ListBasicOutages)

4.2 1010102ListBasicOutages

4.2.1 Security Operation Access

Accessible by ViewBasicOutages and EditBasicOutages security operations.

4.2.2 Initialisation

The list of basic outages is displayed in ascending Code order. The fields displayed are the basic_outage_id (Code), description (Equipment out of Service), valid_from_date (Valid From), v_equipment_owner_id (Owner), so_impact_id (So Impact) and status from the basic_outage table. The records displayed depend upon the query parameters entered in 1010101QueryBasicOutages as follows:

| Screen Field | Purpose |
|---|--|
| Reference Code | Basic_outage_id must begin with the value entered in the parameter (if entered) |
| Licensed Area | Tra_owner_id must equal this parameter (if entered) |
| Group | Basic_group field must match this parameter |
| Status | The Status field must match this parameter |
| DNO Outage | Depending upon the parameter value the V_EQUIPMENT_OWNER_ID field must either contain a DNO (for Only DNO), a non DNO (for Non DNO) or any value (for blank parameter) |
| Parties | The basic outage must be linked to all of the parties in the parameter list. The parties will either be SO, TO or External parties. |
| Risk Outages Only | If this checkbox is selected then demand_at_risk must equal 1. |
| 'Date Range' and 'Only show Basic Outages starting or | If the checkbox is unchecked then all outages whose valid date range intersect with the date range parameter will be displayed. If the checkbox is checked then only outages whose valid_from_date or valid_to_date fall within the date range parameters are displayed. |

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| Screen Field | Purpose |
|-------------------------------|--|
| ending within the date range? | |
| Substations | If the 'Outage must include all substations' checkbox was checked then only outages with all the selected substations, and substations within any selected group, should be displayed, otherwise all outages which include one or more of the substations should be displayed. |

4.2.3 Processing

Selection of the 'Add' button will call 1010104AddBasicOutage.

If the user has EditBasicOutages permission then selection of the 'Code' link will call 1010105EditBasicOutage otherwise, if the user only has ViewSubstations permission, then selection of the 'Code' link will call 1010103ViewBasicOutage.

4.2.4 Validation

N/A

4.2.5 Use Cases Covered

'List Basic Outages' (along with 1010101QueryBasicOutages)

4.3 1010103ViewBasicOutage

4.3.1 Security Operation Access

Accessible by ViewBasicOutages security operation.

4.3.2 Basic Outage Screen to Database Mapping

| Screen Field | Database table | Field |
|---------------------|---------------------------------------|-------------------------------|
| Code | basic_outage | basic_outage_id |
| Licensed Area | basic_outage | tra_owner_id |
| Status | basic_outage | status |
| Valid From | basic_outage | valid_from_date |
| Valid to | basic_outage | valid_to_date |
| SO Impact | so_impact | so_impact_id and description |
| Description | basic_outage | description |
| Equip Owner | basic_outage | v_equipment_owner_id |
| Basic Group | basic_outage | basic_group |
| Operational Remarks | basic_outage | remarks |
| Substations | substation (linked via basic_sub_out) | substation_id and description |
| Assets | asset (linked via basic_out_asset) | asset_id and description |

| Screen Field | Database table | Field |
|-------------------------|-------------------------------------|------------------------------|
| TO Parties | topam_to_party (via party_link) | to_party_id and description |
| SO Parties | topam_so_party (via party_link) | so_party_id and description |
| External Parties | ext_party (via party_link) | ext_party_id and description |
| External party comments | party_link | ext_party_comment |
| Free codes | free_code (via basic_out_free_code) | free_code_id and description |
| Tower References | basic_tower_ref | basic_tower_id |

4.3.3 Initialisation

Display the basic outage data according to the screen to database mapping defined above.

4.3.4 Processing

None

4.3.5 Validation

External party comments: Users should not be able to view external party comments unless they are authorised to view this data. (1570)

4.3.6 Use Cases Covered

'View Basic Outage'

4.4 1010104AddBasicOutage

4.4.1 Security Operation Access

Accessible by EditBasicOutage security operation.

4.4.2 Initialisation

The user is presented with a blank basic outage record.

The drop lists are populated as follows:

| Screen Field | Population details |
|---------------|--|
| Licensed Area | TRA_OWNER.TRA_OWNER_ID – If the user is an SO user then display all. If the user is a TO user then only display their TRA_OWNER_ID in the list |
| Status | Fixed values. If the user is a TO user then the list should contain the values 'Editable' and 'Proposed'. If the user is an SO user then the list should contain the values 'Editable' |

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| Screen Field | Population details |
|--------------------|---|
| | and 'Accepted'. |
| SO Impact | SO_IMPACT.SO_IMPACT_ID and DESCRIPTION – All records |
| Equip Owner | V_EQUIPMENT_OWNER.EQUIPMENT_OWNER_ID – If the user is an SO user then display all. If the user is a TO user then only display the EQUIPMENT_OWNER_ID which equals their TRA_OWNER_ID in the list. |
| Add External Party | EXT_PARTY.EXT_PARTY_ID and DESCR. If the user is an SO user then display all. If the user is a TO user then only display external parties with that same TRA_OWNER as the TO user. |
| Free Codes | FREE_CODE.FREE_CODE_ID and DESCRIPTION. Only include records where AVAILABLE = 1. If the user is an SO user then display all of these records. If the user is a TO user then only display those with the USED_BY field equal to 'ALL' or equal to the user's TRA_OWNER. |

4.4.3 Validation

| Screen Field | Field Constraints | Validation / description |
|-------------------------|--|--|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Code | Mandatory, unique | Cannot be changed once committed |
| Licensed Area | Mandatory | If user is a TO then set this field to their TO and do not allow them to change it. If they are an SO then allow them to choose from the list. |
| Status | Mandatory | Any value from the list. |
| Valid from (date) | Mandatory | Any valid date |
| Valid to (date) | Optional | Must not be before from date |
| SO Impact | Mandatory | Choose from the list. |
| Substations | Mandatory (at least one must be entered) | The value entered must be a valid substation id. See processing section for further details. |
| Assets | Optional | Populate the list to be all the assets associated with the substations on the outage. |
| TO Parties / SO Parties | Display only | Shows TO parties and SO parties associated with the assets and substations. Do not show duplicates. These parties are not actually held against the basic outage but simply displayed. |
| Description | Optional | Free text field. Default the description from the first asset linked to the basic outage into this field. |
| Equip owner | Mandatory | Defaults to the owner of the highest voltage substation on the outage. If two substations owned by different companies both have the same highest voltage then the one with the earliest alphabetical name will be defaulted. The field can be changed to any value from the list. |
| Basic Outage Group | Optional | Free text |
| Operational Remarks | Optional | Free text |

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| Screen Field | Field Constraints <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | Validation / description |
|---------------------------|--|--|
| External Parties | Optional | Add one at a time, choosing values from the list (maybe do multiple selection). The list is populated from the Powerstation codes and the DNO and DCC codes. Parties be removed also. (see note below regarding changes to parties.) |
| External Parties Comments | Optional | Free text. |
| Free codes | Optional | Any value from the list |
| Tower Ref | Optional | Free text. Can be added to the outage one at a time. |

4.4.4 Processing

See 1010103ViewBasicOutage for details of screen field to database mapping.

Whenever a substation is added or removed from the basic outage then the list of available assets will be updated to include only the assets linked to the substations. This may also involve removing an asset from the basic outage record if it is not longer valid. The SO party and TO party lists will be updated to show only the SO and TO parties associated with the substations and assets currently linked to the basic outage.

Likewise, whenever an asset is added or removed from the basic outage record then the SO party and TO party lists will be updated to show only the SO and TO parties associated with the substations and assets currently linked to the basic outage.

The 'Find' button next to the 'Add Substation' field calls the query substation screen (1010301QuerySubStns) and allows the user to find a substation, which will then be brought back to this screen and placed in the field ready for the user to press the 'Add' button.

The current date and user details are recorded in the 'Last Updated By' and 'Last Updated' fields when the basic outage is added or subsequently modified.

4.4.5 Use Cases Covered

'Create Basic Outage'.

4.5 1010105EditBasicOutage

4.5.1 Security Operation Access

Accessible by EditBasicOutages security operation.

4.5.2 Initialisation

The screen should be populated with details of the selected basic outages (see 1010103ViewBasicOutage for details of screen field to database mapping).

If basic outage not in use (on any request, pending or planned outage) then display the 'Delete' button.

The drop lists are populated as follows:

| Screen Field | Population details |
|---------------------------|---|
| Licensed Area | TRA_OWNER.TRA_OWNER_ID – If the user is an SO user then display all. If the user is a TO user then only display their TRA_OWNER_ID in the list |
| Status | Fixed values. If the user is a TO user then the list should contain the values 'Editable', 'Proposed' and 'Withdrawn from Use'. If the user is an SO user then the list should contain the values 'Accepted', 'Rejected' and 'Withdrawn from Use'. |
| SO Impact | SO_IMPACT.SO_IMPACT_ID and DESCRIPTION – All records |
| Equip Owner | V_EQUIPMENT_OWNER.EQUIPMENT_OWNER_ID – If the user is an SO user then display all. If the user is a TO user then only display the EQUIPMENT_OWNER_ID which equals their TRA_OWNER_ID in the list. |
| Assets | ASSET.ASSET_ID and DESCRIPTION. Show all assets which are associated with substations on the basic outage record. DO not include assets already on the basic outage record. |
| Add External Party | EXT_PARTY.EXT_PARTY_ID and DESCR. If the user is an SO user then display all. If the user is a TO user then only display external parties with that same TRA_OWNER as the TO user. |
| Apply external party..... | Fixed values – 'Yes' and 'No' |
| Free Codes | FREE_CODE.FREE_CODE_ID and DESCRIPTION. Only include records where AVAILABLE = 1. If the user is an SO user then display all of these records. If the user is a TO user then only display those with the USED_BY field equal to 'ALL' or equal to the user's TRA_OWNER. |

4.5.3 Validation

| Screen Field | Field Constraints | Validation / description |
|-------------------|--|--|
| | <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | |
| Code | Display only | Cannot be changed. |
| Licensed Area | Mandatory | If user is a TO then set this field to their TO and do not allow them to change it. If they are an SO then allow them to choose from the list. |
| Status | Mandatory | Any value from the list |
| Valid from (date) | Mandatory | Any valid date – cannot be updated once |

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| Screen Field | Field Constraints <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | Validation / description |
|---------------------------|--|--|
| | | committed. |
| Valid to (date) | Optional | Must not be before from date |
| SO Impact | Mandatory | Any value from the list. |
| Description | Optional | Free text field. The feature of putting the asset description in the basic outage description should only function when a basic outage entry is first created (1991) |
| Equipment owner | Mandatory | Any value from the list. |
| Basic Outage Group | Optional | Free text |
| Operational Remarks | Optional | Free text |
| Substations | Mandatory (at least one must be entered) | From the SUBSTATIONS table. The user must enter the substation code or use the Find option. |
| Assets | Optional | Populate the list to be all the assets associated with the substations on the outage. |
| TO Parties / SO Parties | Display only | Shows TO parties and SO parties associated with the assets and substations. Do not show duplicates. |
| External Parties | Optional | Add one at a time, choosing values from the list (maybe do multiple selection). The list is populated from the Powerstation codes and the DNO and DCC codes. Parties be removed also. (see note below regarding changes to parties.) |
| External Parties Comments | Optional | Free text. |
| Free codes | Optional | Any value from the list. |
| Tower Ref | Optional | Free text. Can be added to the outage one at a time. |

4.5.4 Processing

The substation, asset, SO and TO parties processing is as specified in the Add screen (1010104AddBasicOutage).

If the list of external parties on the basic outage has been changed then the user will be presented with the option of applying the changes to current request, pending and planned outages. If they want to do this they must enter a date from which the changes should be made, or they should specify that the change should not be rolled forward. The change will be made to all Request, Pending and Planned outages with an end date (or window end date in the case of Requests) after the entered date. When an external party is added to the basic outage the comment associated with the external party will also be copied to the request, pending or planned outage. If the text of an external party comment is updated for an existing external party on the basic outage then this change should not be rolled forward onto the request, pending or planned outage. (Note

similar processing is required when updating substations in 1004AddEditSubStn and assets in 1024AddEditAsset)

The current date and user id are stored in the 'Last Updated By' and 'Last Updated' fields whenever the basic outage record is amended.

The Copy button will call the Add screen with all of the fields pre-filled from the existing outage (except 'Code' and with a status of 'Editable').

The Delete field will only be displayed if the basic outage is not being referenced by any request, pending or planned outage. Selecting this button will physically delete the basic outage from the database.

If a TO user updates a basic outage record of status 'Accepted' or 'Rejected' the status will automatically be set to 'Editable'.

4.5.5 Use Cases Covered

'Modify Basic Outage', 'Change Basic Outage Status' and Delete Basic Outage'.

4.6 1010401QueryAssets

4.6.1 Security Operation Access

Accessible by ViewAssets and EditAssets security operations.

4.6.2 Initialisation

The drop lists are populated as follows:

| Screen Field | Population details |
|-----------------|---|
| Licensed Area | TRA_OWNER.TRA_OWNER_ID – If the user is an SO user then display all records. If the user is a TO user then only display their TRA_OWNER_ID in the list. Include a blank entry in the list |
| Equipment Owner | V_EQUIPMENT_OWNER.EQUIPMENT_OWNER_ID – If the user is an SO user then display all. If the user is a TO user then only display the EQUIPMENT_OWNER_ID which equals their TRA_OWNER_ID in the list. |
| Type | ASSET_TYPE.ASSET_TYPE_ID – Include all records |
| Parties | If user is an SO user then include all records from TOPAM_SO_PARTY table and TOPAM_TO_PARTY table. If the user is a TO user then show all records from the TOPAM_SO_PARTY table but only show records from TOPAM_TO_PARTY where the TRA_OWNER matches the users TO value. |

4.6.3 Processing

All fields are optional entry.

The checkbox determines whether all assets intersecting with the date range should be included or just those starting or ending in the date range.

4.6.4 Use Cases Covered

'List Assets' (along with 1010402ListAssets)

4.7 1010402ListAssets

4.7.1 Security Operation Access

Accessible by ViewAssets and EditAssets security operations.

4.7.2 Initialisation

The list of assets is displayed in ascending asset_id order. The fields displayed are the asset_id (Code), description, commission_date (Commissioning Date), decommission_date (Decommissioning Date), asset_type_id, tra_owner_id (Area) and v_equipment_owner_id (Owner) from the asset table along with the substation_ids (Node 1 and Node 2) from the asset_sub table. The records displayed depend upon the query parameters entered in 1010401QueryAssets as follows:

| Screen Field | Purpose |
|---|---|
| Code | Asset_id must begin with the value entered in the parameter (if entered) |
| Licensed Area | Tra_owner_id must equal this parameter (if entered) |
| Equipment Owner | V equip_owner_id must equal this parameter (if entered) |
| Type | Asset_type_id must equal this parameter (if entered) |
| Parties | The asset must be linked to all of the parties in the parameter list. The parties will either be SO or TO parties. |
| 'Date Range' and 'Only show Assets starting or ending within the date range?' | If the checkbox is unchecked then all assets whose valid from/to dates intersect with the date range parameter will be displayed. If the checkbox is checked then only assets whose valid_from_date or valid_to_date fall within the date range parameters are displayed. |

4.7.3 Processing

Selection of the 'Add' button will call 1010404AddEditAssets in Add mode.

If the screen has been called as part of an asset search then the selection of the 'Code' link will cause the asset_id to be returned to the calling screen.

If the screen has not be called as part of an asset search then if the user has EditAssets permission then selection of the 'Code' link will call 1010404AddEditAsset in Edit mode otherwise, if the user only has ViewAssets permission then selection of the 'Code' link will call 1010403ViewAsset.

4.7.4 Validation

N/A

4.7.5 Use Cases Covered

'List Assets' (along with 1010401QueryAssets)

4.8 1010403ViewAsset**4.8.1 Security Operation Access**

Accessible by ViewAssets security operation.

4.8.2 Asset Screen to Database Mapping

| Screen field | Database table | Field |
|-----------------------|---------------------------------|---------------------------------|
| Code | asset | asset_id |
| Description | asset | description |
| Owner Specific Code | asset | owner_code |
| Asset Type | asset | asset_type_id |
| Commissioning Date | asset | commission_date |
| Decommissioning Date | asset | decommission_date |
| Owner | asset | v_equipment_owner_id |
| Licensed Area | asset | tra_owner_id |
| Node 1 | asset_sub | substation_id for first record |
| Node 2 | asset_sub | substation_id for second record |
| Comments | asset | comments |
| SO Interested Parties | topam_so_party (via party_link) | so_party_id and description |
| TO Interested Parties | topam_to_party (via party_link) | to_party_id and description |

4.8.3 Initialisation

Display the asset data according to the screen to database mapping defined above.

4.8.4 Processing

None

4.8.5 Validation

N/A

4.8.6 Use Cases Covered

4.9 1010404AddEditAsset

4.9.1 Security Operation Access

Accessible by EditAssets security operation.

4.9.2 Initialisation

If called by Add button then present user with blank asset record otherwise populate the screen with the selected asset details (see 1010403ViewAsset for details).

If asset is not in use (on any basic, request, pending or planned outage) then display the 'Delete' button.

The drop lists are populated as follows:

| Screen Field | Population details |
|----------------------------------|---|
| Asset Type | ASSET_TYPE.ASSET_TYPE_ID – All records |
| Owner | V_EQUIPMENT_OWNER.EQUIPMENT_OWNER_ID – If the user is an SO user then display all. If the user is a TO user then only display the EQUIPMENT_OWNER_ID which equals their TRA_OWNER_ID in the list. |
| Licensed Area | TRA_OWNER.TRA_OWNER_ID – If the user is an SO user then display all. If the user is a TO user then only display their TRA_OWNER_ID in the list |
| SO Interested Parties | TOPAM_SO_PARTY.SO_PARTY_ID and DESCR. If the user is an SO user then display all. If the user is a TO user then don't display any. Do not include SO parties that the substation is already linked to. |
| TO Interested Parties | TOPAM_TO_PARTY.TO_PARTY_ID and DESCR. If the user is an SO user then display all. If the user is a TO user then only display those for their TRA_OWNER. Do not include TO parties that the substation is already linked to. |
| Apply party addition/deletion... | Fixed values – 'Yes' and 'No' |

4.9.3 Validation

| Screen Field | Field Constraints | Validation / description |
|---------------------|--|--|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Code | Mandatory, unique | Cannot be changed once committed. |
| Description | Mandatory | Free text field. |
| Owner Specific Code | Optional | Free text – must be unique for the owner |
| Asset Type | Mandatory | Any value from the list |

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| | | |
|----------------------|-----------|---|
| Commissioning Date | Mandatory | Any valid date – cannot be updated once committed. |
| Decommissioning Date | Optional | Must not be before the commissioning date |
| Owner | Mandatory | Any value from the list |
| Licensed Area | Mandatory | Any value from the list |
| Node1 | Mandatory | Must be a valid substation code. Use the Find button to call the 1010301QuerySubStns screen. |
| Node 2 | Optional | As Node 1 |
| Comments | Optional | Free text |
| TO Parties | Optional | Add one at a time, choosing values from the list. The list is populated from the TOPAM_TO_Party table and should not show TO parties already assigned to the asset. The remove buttons are used to unassign the TO party from the chosen asset. |
| SO Parties | Optional | Like TO parties but populated from the TOPAM_SO_PARTY table. |

4.9.4 Processing

See 1010303ViewSubStn for details of screen field to database mapping.

If the asset is not in use (on any basic, request, planned or pending outage or in an asset group) then display the 'Delete' button.

Whenever the record is updated then record the current date and user in the Last Updated By' and 'Last Updated' fields.

When a new asset is inserted set the manually_entered field to 0.

If the list of TO parties or SO parties on the asset has been changed then the changes will be applied to the Basic outages which refer to the asset (but as the TO and SO parties are not actually held against the basic outage this does not need a data update to achieve it).

The user will be presented with the option of applying the changes to current request, pending and planned outages. If they want to do this they must enter a date from which the changes should be made, or they should specify that the change should not be rolled forward. The change will be made to all Request, Pending and Planned outages with an end date (or window end date in the case of Requests) after the entered date. (Note the same processing is required when updating assets in 1010304AddEditSubStn)

4.9.5 Use Cases Covered

'Create Asset Record' and 'Modify Asset Record'.

4.10 1010301QuerySubStns

4.10.1 Security Operation Access

Accessible by ViewSubstations and EditSubstations security operations.

4.10.2 Initialisation

The drop lists are populated as follows:

| Screen Field | Population details |
|---------------|---|
| Licensed Area | TRA_OWNER.TRA_OWNER_ID – If the user is an SO user then display all records. If the user is a TO user then only display their TRA_OWNER_ID in the list. Include a blank entry in the list |
| Owner | V_EQUIPMENT_OWNER.EQUIPMENT_OWNER_ID – If the user is an SO user then display all. If the user is a TO user then only display the EQUIPMENT_OWNER_ID which equals their TRA_OWNER_ID in the list. |
| Group | SUBSTATION_GROUP.SUBSTATION_GROUP_ID – all records. Include a blank entry |
| Parties | If user is an SO user then include all records from TOPAM_SO_PARTY table and TOPAM_TO_PARTY table. If the user is a TO user then show all records from the TOPAM_SO_PARTY table but only show records from TOPAM_TO_PARTY where the TRA_OWNER matches the users TO value. |

4.10.3 Processing

All fields are optional entry.

The checkbox determines whether all substations intersecting with the date range should be included or just those starting or ending in the date range.

4.10.4 Use Cases Covered

'List Substations' (along with 1010302ListSubStns)

4.11 1010302ListSubStns

4.11.1 Security Operation Access

Accessible by ViewSubstations and EditSubstations security operations.

4.11.2 Initialisation

The list of substations is displayed in ascending substation_id order. The fields displayed are the substation_id, description, commission_date (Commissioning Date), decommission_date (Decommissioning Date), tra_owner_id (Area) and

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v_equipment_owner_id (Owner) from the substation table. The records displayed depend upon the query parameters entered in 1010301QuerySubStns as follows:

| Screen Field | Purpose |
|--|---|
| Code | Substation_id must begin with the value entered in the parameter (if entered) |
| Licensed Area | Tra_owner_id must equal this parameter (if entered) |
| Owner | V_equipment_owner_id must equal this parameter (if entered) |
| Group | There must be a substation_group_link record for the substation_id with a substation_group_id matching this parameter (if entered) |
| Parties | The substation must be linked to all of the parties in the parameter list. The parties will either be SO or TO parties. |
| 'Date Range' and 'Only show Substations starting or ending within the date range?' | If the checkbox is unchecked then all substations whose commission_date to decommission_date span intersect with the date range parameter will be displayed. If the checkbox is checked then only substations whose commission_date or decommission_date fall within the date range parameters are displayed. |

4.11.3 Processing

If the screen has been called as part of a substation search then the selection of the 'Code' link will cause the substation_id to be returned to the calling screen.

If the screen has not be called as part of a substation search then if the user has EditSubstations permission then selection of the 'Code' link will call 1010304AddEditSubStn in Edit mode otherwise, if the user only has ViewSubstations permission then selection of the 'Code' link will call 1010303ViewSubStn.

4.11.4 Validation

N/A

4.11.5 Use Cases Covered

'List Substations' (along with 1010301QuerySubStns)

4.12 1010303ViewSubStn

4.12.1 Security Operation Access

Accessible by ViewSubstations security operation.

4.12.2 Substation Screen to Database Mapping

| Screen field | Database table | Field |
|--------------|----------------|----------------------|
| Code | substation | substation_id |
| Description | substation | description |
| Owner | substation | v_equipment_owner_id |

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| | | |
|-----------------------|---------------------|-------------------------------------|
| Commissioning Date | substation | commission_date |
| Decommissioning Date | substation | decommission_date |
| Licensed Area | substation | tra_owner_id |
| Voltage | voltage | description |
| SO Interested Parties | topam_so_party | so_party_id and descr |
| TO Interested Parties | topam_to_party | to_party_id and descr |
| Groups | substation_grp_link | substation_group_id |
| Linked Powerstations | TO BE DETERMINED | TO BE DETERMINED |
| Last update details | substation | last_update_by and last_update_date |

4.12.3 Initialisation

Display the substation data according to the screen to database mapping defined above.

4.12.4 Processing

None

4.12.5 Validation

N/A

4.12.6 Use Cases Covered

4.13 1010304AddEditSubStn

4.13.1 Security Operation Access

Accessible by EditSubstations security operation.

4.13.2 Initialisation

If called by Add button then present user with blank substation record otherwise populate the screen with the selected substation details (see 1010303ViewSubStn for details).

If substation not in use (on any asset record, basic, request, pending or planned outage or substation group) then display the 'Delete' button.

The drop lists are populated as follows:

| Screen Field | Population details |
|---------------|--|
| Licensed Area | TRA_OWNER.TRA_OWNER_ID – If the user is an SO user then display all. If the user is a TO user then only display their TRA_OWNER_ID in the list |
| Owner | V_EQUIPMENT_OWNER.EQUIPMENT_OWNER_ID – If |

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| | |
|---------------------------|---|
| | the user is an SO user then display all. If the user is a TO user then only display the EQUIPMENT_OWNER_ID which equals their TRA_OWNER_ID in the list. |
| Voltage | VOLTAGE.DESCRPTION |
| SO Interested Parties | TOPAM_SO_PARTY.SO_PARTY_ID and DESCR. If the user is an SO user then display all. If the user is a TO user then don't display any. Do not include SO parties that the substation is already linked to. |
| TO Interested Parties | TOPAM_TO_PARTY.TO_PARTY_ID and DESCR. If the user is an SO user then display all. If the user is a TO user then only display those for their TRA_OWNER. Do not include TO parties that the substation is already linked to. |
| Group | SUBSTATION_GROUP.SUBSTATION_GROUP_ID – all records except those that the substation is already linked to. |
| Apply party addition..... | Fixed values – 'Yes' and 'No'. |

4.13.3 Validation

| Screen Field | Field Constraints | Validation / description |
|----------------------|--|---|
| | <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | |
| Code | Mandatory, unique | Cannot be changed once committed. Cannot be same as an existing substation group code |
| Description | Mandatory | Free text field. |
| Commissioning Date | Mandatory | Any valid date. |
| Decommissioning Date | Optional | Must not be before the commissioning date |
| Voltage | Mandatory | Any value from the list |
| Owner | Mandatory | Any value from the list |
| Licensed Area | Mandatory | Any value from the list |
| Groups | Optional | Add one at a time, choosing values from the list. The remove buttons are used to unassign the substation from the chosen group. |
| TO Parties | Optional | Operate like Groups. |
| SO Parties | Optional | Operate like Groups. |

4.13.4 Processing

See 1010303ViewSubStn for details of screen field to database mapping.

If the list of TO parties or SO parties on the substation has been changed then the changes will be applied to the Basic outages which refer to the substation (but as the TO and SO parties are not actually held against the basic outage this does not need a data update to achieve it).

The user will be presented with the option of applying the changes to current request, pending and planned outages. If they want to do this they must enter a date from which the changes should be made, or they should specify that the

change should not be rolled forward. The change will be made to all Request, Pending and Planned outages with an end date (or window end date in the case of Requests) after the entered date. (Note the same processing is required when updating assets in 1010404AddEditAsset)

Whenever the record is updated then record the current date and user in the Last Updated By' and 'Last Updated' fields.

When a new substation is inserted set the manually_entered field to '0.

4.13.5 Use Cases Covered

'Create Substation Record' and 'Modify Substation Record'.

4.14 1010305ListSubStnGroups

4.14.1 Security Operation Access

Accessible by ViewSubstations and EditSubstations security operations.

4.14.2 Initialisation

List all the substation groups in ascending code order. List the active ones at the top.

The fields displayed are the substation_group_id, description, available (as a checkbox) from the substation_group table and a sideways list of the substation_id values from the substation_grp_link table.

The Select button is available if the user has ViewSubstations permission or EditSubstations permission.

The Add button is only available if the user has EditSubstations permission.

4.14.3 Processing

If the user has EditSubstations permission then selection of the 'Code' link will call 1010307AddEditSubStnGroup in Edit mode otherwise, if the user only has ViewSubstations permission then selection of the 'Code' link will call 1010306ViewSubStnGroup.

4.14.4 Validation

N/A

4.14.5 Use Cases Covered

'Maintain Substation Groups' (along with 1010306ViewSubStnGroup and 1010307EditSubStnGroup'.

4.15 1010306ViewSubStnGroup

4.15.1 Security Operation Access

Accessible by ViewSubstations security operation.

4.15.2 Substation Group Screen to Database Mapping

| Screen field | Database table | Field |
|--------------|---------------------|---------------------|
| Code | substation_group | substation_group_id |
| Description | substation_group | description |
| Active | substation_group | available |
| Substations | substation_grp_link | substation_id |

4.15.3 Initialisation

Display the basic outage data according to the screen to database mapping defined above.

4.15.4 Processing

None

4.15.5 Validation

N/A

4.15.6 Use Cases Covered

'Maintain Substation Groups' (along with 1010305ListSubStnGroups and 1010307EditSubStnGroup'.

4.16 1010307AddEditSubStnGroup

4.16.1 Security Operation Access

Accessible by EditSubstations security operation.

4.16.2 Initialisation

If called by Add button then present user with blank substation group record otherwise populate the screen with the selected substation group details (see 1010306ViewSubStnGroup for details).

Display the 'Delete' button.

4.16.3 Validation

| Screen Field | Field Constraints | Validation / description |
|--------------|--|---|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Code | Mandatory, unique | Cannot be changed once committed. Cannot be same as an existing substation code |
| Description | Mandatory | Free text field. |
| Substations | Optional | See below |

4.16.4 Processing

See 1010306ViewSubStnGroup for details of screen field to database mapping.

Add and remove substations from group. To add a substation the user must type in the substation code or use the Find button which will take the user to the substation query screen (1010301QuerySubStns) where they can query to produce a list (1010302ListSubStns) and then press a Select button on the list which will bring the selected code back into the Add Substation field on the 1010307AddEditSubStnGroup screen.

4.16.5 Use Cases Covered

'Maintain Substation Groups' (along with 1010305ListSubStnGroups and 1010306ViewSubStnGroup).

4.17 1010601UnwiseAssetCombos

4.17.1 Security Operation Access

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

4.17.2 Unwise Asset Combination Screen to Database Mapping

| Screen Field | Database table | Field |
|--------------|---|---------------|
| Name | asset_group | group_name_id |
| Description | asset_group | description |
| Unwise Group | asset_group | unwise |
| Apply | asset_group | apply_check |
| Assets | asset_group_link (linked via group_name_id) | asset_id |

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| Screen Field | Database table | Field |
|-----------------|----------------|---------------------------------------|
| Warning message | asset_group | warning_message |
| Last updated by | asset_group | last_updated_by and last_updated_date |

4.17.3 Initialisation

The screen will display the all of the Asset Group records displaying the unwise groups before the non-unwise groups, the applied records before non-applied records and in Name order within these groupings.

The fields displayed are as per the Free Code to Database mapping in the previous section.

The Assets field displayed is a comma separated list of the associated asset_ids (from the asset_group_link table).

If the user has EditRefData permission then the Add and Delete keys will be displayed and the Apply fields will be updateable.

4.17.4 Validation

The fields entered when adding a new group are validated as follows:

| Screen Field | Field Constraints | Validation / description |
|-----------------|--|--|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Name | Mandatory, unique | Cannot be changed once committed. |
| Description | Mandatory | Free text field. |
| Unwise Group | | If checked then group will be considered to be an unwise combination, otherwise it will be considered to be a regular asset group. |
| Apply | | Boolean. Maps to the Apply_check field |
| Assets | Mandatory | A list of asset_ids separated by commas. The ids must be valid asset_ids. The 'Find' button can be used to find asset ids (see below for details). |
| Warning message | Optional | Free text. |

4.17.5 Processing

The Find button takes the user to the asset query screen (1010401QueryAssets) where they can enter a query, get a list of assets (in screen 1010402ListAssets) and then select an asset. The ID of this asset will be appended to the 'Assets' field on this screen.

The user will be able to view the list of records, set groups as active/inactive and add new groups. Any new or amended groups will have the current user and date recorded on it for audit purposes.

4.17.6 Use Cases Covered

'Maintain Unwise Asset Combinations' and 'Maintain Asset Groups'.

4.18 1010201FreeCodes

4.18.1 Security Operation Access

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

4.18.2 Free Code Screen to Database Mapping

| Screen Field | Database table | Field |
|--------------|----------------|---------------------------------------|
| Code | free_code | free_code_id |
| Description | free_code | description |
| Available | free_code | available |
| Used By | free_code | used_by |
| Last updated | free_code | last_updated_by and last_updated_date |

4.18.3 Initialisation

The screen will display the free code records in ascending code order. If the user is an SO user then all free code records will be displayed. If the user is a TO user then only the free codes which match their own TO or those with a used_by of 'ALL' will be displayed.

The fields displayed are as per the Free Code to Database mapping in the previous section.

The drop list is populated as follows:

| Field | Population details |
|---------|--|
| Used By | TRA_OWNER.TRA_OWNER_ID plus some fixed values. If the user is an SO user then the list will contain all records from the TRA_OWNER table plus the values 'SO' and 'ALL'. If the user is a TO user then the list will only contain their own licensed area. |

If the user has EditRefData permission then the Add button will be displayed and the Available fields will be updateable.

The Delete buttons will be displayed if the user has EditRefData permission and the individual free codes are not currently being referenced by any basic, request, pending or planned outages.

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If the user is a TO user then the Available field will only be updateable on free codes with their own TO and not those with a used_by of 'ALL'. Similarly the Delete icon will only appear with their own free codes and not those for 'ALL' TOs.

4.18.4 Validation

| Screen Field | Field Constraints | Validation / description |
|--------------|--|-----------------------------------|
| | <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | |
| Code | Mandatory, unique | Cannot be changed once committed. |
| Description | Mandatory | Free text field. |
| Available | | Boolean |
| Used By | | Any value from the list |

4.18.5 Processing

The user will be able to view the list of records, set free codes as available/unavailable and add new free codes. Any new or amended free codes will have the current user and date recorded on it for audit purposes.

4.18.6 Use Cases Covered

'Maintain Free Codes'

4.19 1010501AssetTypes

4.19.1 Security Operation Access

Accessible by 'View Reference Data' (but in view only mode) and 'Edit Reference Data' security operations.

4.19.2 Asset Types Screen to Database Mapping

| Screen Field | Database table | Field |
|--------------|----------------|---------------------------------------|
| Type | asset_type | asset_type_id |
| Description | asset_type | description |
| Available | asset_type | available |
| Last updated | asset_type | last_updated_by and last_updated_date |

4.19.3 Initialisation

The screen will display the asset type records in ascending type order.

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The fields displayed are as per the Asset Type to Database mapping in the previous section.

If the user has 'Edit Reference Data' permission then the Add button will be displayed and the Available fields will be updateable.

The Delete icons will be displayed if the user has 'Edit Reference Data' permission and the individual asset types are not currently being referenced by asset records.

4.19.4 Validation

| Screen Field | Field Constraints | Validation / description |
|--------------|--|-----------------------------------|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Type | Mandatory, unique | Cannot be changed once committed. |
| Description | Mandatory | Free text field. |
| Available | | Boolean |

4.19.5 Processing

The user will be able to view the list of records, set asset types as available/unavailable and add new asset types. Any new or amended asset types will have the current user and date recorded on it for audit purposes.

4.19.6 Use Cases Covered

'Maintain Reference Data'

4.20 1010502PlanYears

4.20.1 Security Operation Access

Accessible by 'View Reference Data' (but in view only mode) and 'Edit Reference Data' security operations.

4.20.2 Plan Year Screen to Database Mapping

| Screen Field | Database table | Field |
|---------------|----------------|---------------|
| Year | plan_year | plan_year |
| TO | plan_year | tra_owner_id |
| Start Date | plan_year | start_date |
| End Date | plan_year | end_date |
| Freeze Date | plan_year | freeze_date |
| Handover Date | plan_year | handover_date |

4.20.3 Initialisation

The screen will display the plan year records in descending code and increasing TO order. If the user is an SO user then all plan year records will be displayed. If the user is a TO user then only the plan year records which match their own TO will be displayed.

The fields displayed are as per the Plan Year to Database mapping in the previous section.

The drop list is populated as follows:

| Field | Population details |
|-------|---|
| TO | TRA_OWNER.TRA_OWNER_ID. If the user is an SO user then the list will contain all records. If the user is a TO user then the list will only contain their own licensed area. |

If the user has 'Edit Reference Data' permission then the Add button will be displayed and the Start Date, End Date, Freeze Date and Handover Date fields will be updateable.

The Delete icons will be displayed if the user has 'Edit Reference Data' permission and the individual plan years codes are not currently being referenced by any request, pending or planned outages.

4.20.4 Validation

| Screen Field | Field Constraints | Validation / description |
|---------------|--|--|
| | <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | |
| Year | Mandatory. Unique combination of Year and TO. | Cannot be changed once committed. |
| TO | Mandatory. Unique combination of Year and TO. | Any value from the list. Cannot be changed once committed. |
| Start Date | Mandatory | Cannot be after End Date |
| End Date | Mandatory | Cannot be before Start Date |
| Freeze Date | Mandatory | Any date |
| Handover Date | Mandatory | Any date |

4.20.5 Processing

The user will be able to view the list of records, modify the date fields on existing plan years and add new plan years.

4.20.6 Use Cases Covered

'Maintain Reference Data'

4.21 1010503DCDCodes

4.21.1 Security Operation Access

Accessible by 'View Reference Data' (but in view only mode) and 'Edit Reference Data' security operations.

4.21.2 Work Type Screen to Database Mapping

| Screen Field | Database table | Field |
|--------------|----------------|---------------------------------------|
| Code | dcd | dcd_id |
| Description | dcd | description |
| Available | dcd | active |
| Last updated | dcd | last_updated_by and last_updated_date |

4.21.3 Initialisation

The screen will display the work type records in ascending type order.

The fields displayed are as per the Work Type to Database mapping in the previous section.

If the user has 'Edit Reference Data' permission then the Add button will be displayed and the Available fields will be updateable.

The Delete icons will be displayed if the user has 'Edit Reference Data' permission and the individual asset types are not currently being referenced by any request, pending or planned outage records.

4.21.4 Validation

| Screen Field | Field Constraints | Validation / description |
|--------------|--|-----------------------------------|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editible | |
| Code | Mandatory, unique | Cannot be changed once committed. |
| Description | Mandatory | Free text field. |
| Available | | Boolean |

4.21.5 Processing

The user will be able to view the list of records, set work types as available/unavailable and add new work types. Any new or amended work types will have the current user and date recorded on it for audit purposes.

4.21.6 Use Cases Covered

'Maintain Reference Data'

4.22 1010504PublicHolidays

4.22.1 Security Operation Access

Accessible by 'View Reference Data' (but in view only mode) and 'Edit Reference Data' security operations.

4.22.2 Public Holiday Screen to Database Mapping

| Screen Field | Database table | Field |
|--------------|----------------|---------------------------------------|
| Date | public_holiday | holiday_date |
| Description | public_holiday | description |
| TO | public_holiday | tra_owner_id |
| Last updated | public_holiday | last_updated_by and last_updated_date |

4.22.3 Initialisation

The drop lists are populated as follows:

| Field | Population details |
|---------------|---|
| TO | TRA_OWNER.TRA_OWNER_ID. If the user is an SO user then the list will contain all records. If the user is a TO user then the list will only contain their own licensed area. |
| View Holidays | Fixed values – Each year from 2000 to 2100. Default to the current year. |

4.22.4 Validation

| Screen Field | Field Constraints | Validation / description |
|--------------|--|--|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Date | Mandatory. Unique combination of Date and TO. | Cannot be changed once committed. |
| Description | Mandatory | |
| TO | Mandatory. Unique combination of Date and TO. | Any value from the list. Cannot be changed once committed. |

4.22.5 Processing

If the user picks a year and presses the View button then the screen will display the public holiday records for the year in ascending date and TO order. If the user is an SO user then public holidays for all TOs will be displayed. If the user is a TO user then only the public holidays for their TO will be displayed.

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The fields displayed are as per the Public Holiday to Database mapping in the previous section.

If the user has 'Edit Reference Data' permission then the Add button will be displayed.

A delete icon will be displayed next to each record if the user has 'Edit Reference Data' permission.

The user will be able to view the list of records or add or delete holidays.

If the user adds a new holiday then the list will be refreshed displaying the new record (assuming that the new record is within the year being viewed).

4.22.6 Use Cases Covered

'Maintain Reference Data'

4.23 1010505SOParties

4.23.1 Security Operation Access

Accessible by 'View Reference Data' (but in view only mode) and 'Edit Reference Data' security operations.

4.23.2 SO Party Screen to Database Mapping

| Screen Field | Database table | Field |
|--------------|----------------|---------------------------------------|
| Party | topam_so_party | so_party_id |
| Description | topam_so_party | descr |
| Available | topam_so_party | available |
| Last updated | topam_so_party | last_updated_by and last_updated_date |

4.23.3 Initialisation

The screen will display the SO party records in ascending party order.

The fields displayed are as per the SO Party Screen to Database mapping in the previous section.

If the user has 'Edit Reference Data' permission then the Add button will be displayed and the Available fields will be updateable.

The Delete icons will be displayed if the user has 'Edit Reference Data' permission and the individual SO party records are not currently being referenced by any records in the party_link or the toga_user tables.

4.23.4 Validation

| Screen Field | Field Constraints | Validation / description |
|--------------|--|-----------------------------------|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Party | Mandatory, unique | Cannot be changed once committed. |
| Description | Mandatory | Free text field. |
| Available | | Boolean |

4.23.5 Processing

The user will be able to view the list of records, set SO parties as available/unavailable, add new parties and delete unused ones. Any new or amended records will have the current user and date recorded on it for audit purposes.

4.23.6 Use Cases Covered

'Maintain Reference Data'

4.24 1010506TOParties

4.24.1 Security Operation Access

Accessible by 'View TO Parties' (but in view only mode) and 'Edit TO Parties' security operations.

4.24.2 TO Party Screen to Database Mapping

| Screen Field | Database table | Field |
|--------------|----------------|---------------------------------------|
| Party | topam_to_party | so_party_id |
| Description | topam_to_party | descr |
| TO | topam_to_party | tra_owner_id |
| Available | topam_to_party | available |
| Last updated | topam_to_party | last_updated_by and last_updated_date |

4.24.3 Initialisation

The screen will display the TO party records in ascending party order. If the user is an SO user then all TO party records will be displayed. If the user is a TO user then only the TO party records which match their own TO will be displayed.

The fields displayed are as per the TO Party Screen to Database mapping in the previous section.

The drop list is populated as follows:

| Field | Population details |
|-------|---|
| TO | TRA_OWNER.TRA_OWNER_ID. If the user is an SO user then the list will contain all records. If the user is a TO user then the list will only contain their own licensed area. |

If the user has 'Edit Reference Data' permission then the Add button will be displayed and the Available fields will be updateable.

The Delete icons will be displayed if the user has 'Edit Reference Data' permission and the individual TO party records are not currently being referenced by any records in the party_link or the toga_user tables.

4.24.4 Validation

| Screen Field | Field Constraints | Validation / description |
|--------------|--|--|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Party | Mandatory. Unique combination of Party and TO. | Cannot be changed once committed. |
| Description | Mandatory | Free text field. |
| TO | Mandatory. Unique combination of Party and TO. | Any value from the list. Cannot be changed once committed. |
| Available | | Boolean |

4.24.5 Processing

The user will be able to view the list of records, set SO parties as available/unavailable, add new parties and delete unused ones. Any new or amended records will have the current user and date recorded on it for audit purposes.

4.24.6 Use Cases Covered

'Maintain Reference Data'.

4.25 1010507ChangeCodes

4.25.1 Security Operation Access

Accessible by ViewRefData (but in view only mode) and EditRefData security operations.

4.25.2 Change Code Screen to Database Mapping

| Screen Field | Database table | Field |
|--------------|----------------|---------------------------------------|
| Code | Change_code | Change_code_id |
| Description | Change_code | description |
| Available | Change_code | active |
| Used By | Change_code | used_by |
| Last updated | Change_code | last_updated_by and last_updated_date |

4.25.3 Initialisation

The screen will display the Change code records in ascending code order. If the user is an SO user then all Change code records will be displayed. If the user is a TO user then only the Change codes which match their own TO or those with a used_by of 'ALL' will be displayed.

The fields displayed are as per the Change Code to Database mapping in the previous section.

The drop list is populated as follows:

| Field | Population details |
|---------|--|
| Used By | TRA_OWNER.TRA_OWNER_ID plus some fixed values. If the user is an SO user then the list will contain all records from the TRA_OWNER table plus the values 'SO' and 'ALL'. If the user is a TO user then the list will only contain their own licensed area. |

If the user has EditRefData permission then the Add button will be displayed and the Available fields will be updateable.

The Delete buttons will be displayed if the user has EditRefData permission and the individual Change codes are not currently being referenced by any basic, request, pending or planned outages.

If the user is a TO user then the Available field will only be updateable on Change codes with their own TO and not those with a used_by of 'ALL'. Similarly the Delete icon will only appear with their own Change codes and not those for 'ALL' TOs.

4.25.4 Validation

| Screen Field | Field Constraints | Validation / description |
|--------------|--|-----------------------------------|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Code | Mandatory, unique | Cannot be changed once committed. |
| Description | Mandatory | Change text field. |
| Available | | Boolean |

| | | |
|---------|--|-------------------------|
| Used By | | Any value from the list |
|---------|--|-------------------------|

4.25.5 Processing

The user will be able to view the list of records, set Change codes as available/unavailable and add new Change codes. Any new or amended Change codes will have the current user and date recorded on it for audit purposes.

4.25.6 Use Cases Covered

'Maintain Reference Data'.

4.26 10201UploadRequestFile

4.26.1 Security Operation Access

Accessible by 'Edit Request Outages' security operations.

4.26.2 Initialisation

None.

4.26.3 Processing

The user must enter a file name and location either directly into the field or by using the Browse button.

The submit button will call the Request Outage file upload process (as specified in the TOGA TO Interface Specification).

4.26.4 Use Cases Covered

'Upload Outage File'

4.27 10216QueryRequestOutages

4.27.1 Security Operation Access

Accessible by 'View Request Outages' and 'Edit Request Outages' security operations.

4.27.2 Initialisation

The drop lists are populated as follows:

| Screen Field | Population details |
|--------------|--------------------|
|--------------|--------------------|

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| Screen Field | Population details |
|-------------------|---|
| Plan Year | PLAN_YEAR.PLAN_YEAR – If the user is an SO user then display all distinct values. If the user is a TO user then only display records where the TRA_OWNER matches the user's TRA_OWNER value. |
| Lead Planner | TOGA_USER.USER_NAME where ROLE = either the TO or SO Lead Planner role as defined by the system parameters. |
| Licensed Area | TRA_OWNER.TRA_OWNER_ID – If the user is an SO user then display all records. If the user is a TO user then only display their TRA_OWNER_ID in the list. Include a blank entry in the list |
| Status | STATUS_CODE.STATUS_CODE – Only include records where the user's role is included in the ACCESS_ROLES field. If the user is from the 'Administrator' role then they can access data of any status. |
| Parties | If user is an SO user then include all records from TOPAM_SO_PARTY and TOPAM_TO_PARTY tables. If the user is a TO user then show all records from the TOPAM_SO_PARTY table but only show records from TOPAM_TO_PARTY where the TRA_OWNER matches the users TO value. |
| Substation Groups | SUBSTATION_GROUP.SUBSTATION_GROUP_ID – all records. |
| Order By | Fixed values – 'Start Date', 'Request No', 'Outage No'. |
| <List Type> | Fixed values – 'Standard List' and 'Updateable List'. The Updateable List option should only be available if the user has 'Edit Request Outages' permission. |

4.27.3 Processing

All fields are optional entry.

The date range checkbox determines whether all request outages intersecting with the date range should be included or just those starting or ending in the date range.

The list of substations can be populated by the user choosing 'Substation', entering one or more (comma separated) substation codes in the field and then pressing the 'Add' button to add them to the list. Alternatively the user can press the 'Find' button, which will take the user to the substation query screen (1010301QuerySubStns) and allow them to find a substation which will then be brought back to this screen for inclusion in the substation list.

As a shortcut to adding substations the user can enter a substation group by choosing 'Group', entering a substation group code in the field and pressing the Add button to add the group to the list. Alternatively the user can press the 'Find' button, which will take the user to the substation group list screen (1010305ListSubStnGroups) and allow them to find a substation group, which will then be brought back to this screen for inclusion in the list.

If the ‘Outage must include all Substations?’ checkbox is selected then the query will only return outages that include all of the substations in the list. If the checkbox is unchecked then any outages that contain one or more of the substations will be selected.

The ‘List’ button will call the appropriate list screen and perform the query. If the user has selected ‘Standard List’ then the List button will call 10206ListRequestOutages. If the user has selected Updateable List then the List button will call 10208UpdateableRequestList in a separate browser window.

4.27.4 Use Cases Covered

‘List Request Outages’ (along with 10206ListRequestOutages)

4.28 10206ListRequestOutages

4.28.1 Security Operation Access

Accessible by ‘View Request Outages’ and ‘Edit Request Outages’ security operations.

4.28.2 Initialisation

The list of request outages is displayed in either Start Date, Request No or Outage No order.

As the request outage can have two alternative suggested dates and also window dates, a single request outage may appear multiple times in the request outage list. The entry in the list will indicate which set of dates are being referred to.

The following fields are displayed:

| Screen Field | Database table | Field |
|--------------|----------------|--|
| Request No | request_outage | request_outage_id – appended with either ‘-1’, ‘-2’ or ‘-w’ depending upon which set of dates are being displayed. If the dates are not selected (selected_date1 or 2 = ‘N’) then the request no is displayed in a fairly grey colour. |
| Outage No | request_outage | For an addition request outage the proposed_plan_number is displayed. For an update or cancel request outage then the tra_outage_id. The outage number should be appended with ‘-A’, ‘-U’ or ‘-C’ to indicate whether the request |

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| Screen Field | Database table | Field |
|---------------------|---|--|
| | | outage is an addition, update or cancellation outage. |
| Plan Year | request_outage | plan_year |
| Circuit/Description | basic_outage (joined via basic_outage_id) OR request_outage | If the basic_outage_id field is not null then this field will map to basic_outage.description. If the basic_outage_id field is null then this field will map to request_outage.description |
| Start Date | request_outage | proposed_start1 or proposed_start2 or window_start If the date is at a weekend then display the background in yellow. If it is a public holiday then display the background in blue. |
| End Date | request_outage | proposed_end1 or proposed_end2 or window_end If the date is at a weekend then display the background in yellow. If it is a public holiday then display the background in blue. |
| Risk | request_outage | if any of the winter_erts_risk, cost_risk or demand_at_risk fields contain 1 then display 'Risk' as a link. The link will only be displayed if the user has 'View Risk', 'Edit Risk', 'View Cost Risk' or 'Edit Cost Risk' permission. |
| Fault | Request_outage | Fault_type – First letter – Do not display if fault = 0 |
| Status | request_outage | status. This value will be appended with the 'selected' condition of the dates, i.e. 'Y', 'N', '?' or blank (for window dates). |
| Last Update | Request_outage | status_last_updated_date (Display both date and time parts) |

The records displayed depend upon the query parameters entered in 10216QueryRequestOutages as follows:

| Screen Field | Purpose |
|--------------------|--|
| Request No | Request_outage_id must begin with the value entered in the parameter (if entered) |
| Plan Year | plan_year must equal this parameter (if entered) |
| Outage No | tra_outage_id must begin with the value entered in the parameter (if entered) |
| Lead Planner | Either the to_lead_planner or the so_lead_planner must match this parameter (if entered) |
| Basic Reference | Basic_outage_id must begin with the value entered in the parameter (if entered) |
| Fault Outages Only | If checked then only include outages where fault=1. |

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| Screen Field | Purpose |
|--|--|
| Licensed Area | Tra_owner_id must equal this parameter (if entered) |
| Status | The Status field must match this parameter |
| Parties | The request outage must be linked to all of the parties in the parameter list. The parties will either be SO or TO parties. |
| Batch Upload Seq | batch_upload_seq must equal this parameter (if entered) |
| 'Date Range' and 'Only show request outages starting or ending within the date range?' | If the checkbox is unchecked then all outages whose have a date range intersecting with the date range parameter will be displayed. If the request outage has more than one range that match the date range then the request outage will be selected multiple times. If the checkbox is checked then only outages that have a start date/window or end date/window falling within the date range parameters are displayed. |
| Substations | If the 'Outage must include all substations' checkbox was checked then only outages with all the selected substations should be displayed, otherwise all outages that include one or more of the substations should be displayed. |
| Display requests where status has changed since | If this date is entered then only request outages with a status_last_updated_date field greater than or equal to this parameter will be displayed. |
| SO Cost Change | Checkbox. If checked, then only request outages with 'SO Cost change' flag set, are displayed. |
| SO Cost Reference | If this is entered, only request outages with SO Cost reference equal to this parameter are displayed |

If the user is an SO user then the system will run the unwise asset combination check for each set of proposed dates for each request outage displayed in the list. If any other assets in the unwise group are on outage at the same time then the system will display a red exclamation mark next to the appropriate start date field.

If the outage has any outage links defined then the system will check if any of the links are being violated by either proposed date range. If any are then the system will display the red exclamation mark (as above).

The 'Accept into Pending' button is only available if the user has 'Accept into Pending' permission.

The 'Fasttrack into Plan' button is only available if the user has 'Accept into Plan' permission.

The 'Bulk update of status' button is provided with a status dropdown. Only those status codes are available in Status dropdown, which user's role is privileged to change the status to.

4.28.3 Processing

Selection of the Request No hyperlink will call 10210EditRequestOutage and open in a new window. User can press 'Refresh List' button on the list to periodically refresh the list using the same query parameters.

Selection of the Risk hyperlink will call 10217EditRiskInfo.

The 'All' button causes all of the Accept checkboxes to be checked.

If the user presses the 'Accept into Pending' or the 'Fasttrack into Plan' buttons, after checking the Accept checkbox on one or more outages, then the system must check that the same request outage has not been checked more than once.

The system will then call the 'Accept Request into Pending' or 'Fasttrack Request into Plan' processing for each selected outage.

If user checks one or more outages for Bulk status change, select a status code from the dropdown and press 'Bulk update of status' button, then the status of the checked requests are changed to the selected status.

4.28.4 Validation

4.28.5 Use Cases Covered

'List Request Outages' (along with 10216QueryRequestOutages)

4.29 10205AddRequestOutage

4.29.1 Security Operation Access

Accessible by 'Edit Request Outage' security operation.

4.29.2 Initialisation

The drop lists are populated as follows:

| Screen Field | Population details |
|-------------------------|---|
| Plan Year | PLAN_YEAR.PLAN_YEAR – If the user is an SO user then display all distinct values. If the user is a TO user then only display records where the TRA_OWNER matches the user's TRA_OWNER value. |
| Outage reference/number | Fixed values – 'Basic' and 'Planned' |
| <outage type> | Fixed values –If outage reference is Basic then only display the 'Create Request for New Outage' option. If outage reference is Planned then display 'Create Request to Update existing Outage' and 'Create Request to Cancel existing Outage'. |

4.29.3 Validation

When querying for correct basic outage from create new outage screen it should only display Basic outages of status 'Accepted'. If an incorrect one is typed directly in the box then it should reject with an appropriate message. (1887)

| Screen Field | Field Constraints | Validation / description |
|-------------------------|--|---|
| | <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | |
| Plan Year | Optional | Any value from list |
| Outage Reference/Number | Optional | <p>If the type is 'Basic' then this value must be a valid basic outage reference code.</p> <p>If the type is 'Planned' then this value must be a valid planned outage reference code.</p> <p>The value, whether basic or planned, must match the user's tra_owner value if user is a TO user.</p> |

4.29.4 Processing

Depending upon whether 'Basic' or 'Planned' is chosen in the drop list, the 'Find' button will take the user to the 1010101QueryBasicOutages or 10303QueryPlannedOutages screen in Search mode. This will enable the user to select a basic outage reference or a planned outage number.

Selecting the 'Create Request for New Outage' option and pressing the 'Create Outage' button calls the 10210EditRequestOutage screen in 'Add' mode for an 'addition' request outage. The outage type will be 'Comment' if a comment basic outage has been selected otherwise the outage type will be 'Standard'.

If the 'Create Request for New Outage' option is selected and the 'Create Outage' button is pressed before a Plan Year and Basic Outage Reference have been selected then an error message will be given.

Selecting the 'Create Request to Update Existing Outage' option and pressing the 'Create Outage' button calls the 10210EditRequestOutage screen in 'Add' mode for an 'update' request for a 'Standard' outage.

Selecting the 'Create Request to Cancel Existing Outage' option and pressing the 'Create Outage' button calls the 10210EditRequestOutage screen in 'Add' mode for a 'cancel' request for a 'Standard' outage.

If the 'Create Request to Update Existing Outage' option or the 'Create Request to Cancel Existing Outage' option is selected and the 'Create Outage' button is pressed before a Planned outage number has been selected then an error message will be given.

The Planned outage selected must not already have an inprogress (i.e. not cancelled) request outage or a pending outage attached to it.

4.29.5 Use Cases Covered

'Create Outage Request' (along with 10210EditRequestOutage).

4.30 10210EditRequestOutage

4.30.1 Security Operation Access

Accessible by 'Edit Request Outages' security operation.

4.30.2 Request Outage Screen to Database Mapping

| Screen Field | Database table | Field |
|------------------------------|---|---|
| Request No | request_outage | request_outage_id |
| Status | request_outage | status |
| Plan Year | request_outage | plan_year |
| Outage Number | request_outage | proposed_plan_number (if type = 'Addition') otherwise tra_outage_id |
| Type | request_outage | type / purpose |
| Basic Outage Ref | request_outage | basic_outage_id |
| Circuit/Description | basic_outage (joined via basic_outage_id) OR request_outage | If the basic_outage_id field is not null then this field will map to basic_outage.description. If the basic_outage_id field is null then this field will map to request_outage.description |
| Additional Description | request_outage | additional_description |
| User Ref | request_outage | client_id |
| Fault | request_outage | fault & fault_type |
| Work Involved | request_outage | work_involved |
| C/D | request_outage | continuous |
| ERTS (Day) | request_outage | erts_day |
| ERTS (Night) | request_outage | erts_night |
| In Service | request_outage | service |
| TO Significance | request_outage | to_significance |
| Eng/TO Comments | request_outage | to_comments |
| Rating Adjustment | request_outage | availability |
| APA Time | request_outage | apa_date |
| PFW Time | request_outage | pfw_date |
| ISOS Time | Tra_outage | Start_date (Time part) |
| Duration | request_outage | duration |
| Work Type | dcd_request | dcd_id The multiple values will be selected in the list and also displayed on the screen next to the list (to avoid the user having to scroll down to found out which Work Types are selected). |
| Proposed Start Date & Time 1 | request_outage | proposed_start1 |

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| Screen Field | Database table | Field |
|------------------------------|----------------|---------------------------------------|
| Proposed End Date & Time 1 | request_outage | proposed_end1 |
| Selected (1) | request_outage | selected_date1 |
| Proposed Start Date & Time 2 | request_outage | proposed_start2 |
| Proposed End Date & Time 2 | request_outage | proposed_end2 |
| Selected (2) | request_outage | selected_date2 |
| Window Start | request_outage | window_start |
| Window End | request_outage | window_end |
| Existing Start Date | tra_outage | start_date |
| Existing End Date | tra_outage | end_date |
| Batch Upload Seq | request_outage | batch_upload_seq |
| TO Lead planner | request_outage | to_lead_planner |
| Commissioning Data Required | request_outage | commissioning_reqd |
| Change Description | request_outage | change_description |
| Change Code | request_outage | change_code |
| Requesting Party | request_outage | requesting_party |
| SO Request Comments | request_outage | so_comments |
| Operational Remarks | request_outage | operational_remarks |
| Winter ERTS Risk | request_outage | winter_erts_risk |
| Cost Risk | request_outage | cost_risk |
| SO Impact | request_outage | so_impact |
| Demand at Risk | request_outage | demand_at_risk |
| Nationally Secure | request_outage | nationally_secure |
| Locally Secure | request_outage | locally_secure |
| TO | basic_outage | tra_owner_id |
| SO Lead Planner | request_outage | so_lead_planner |
| Last updated details | request_outage | last_updated_date and last_updated_by |
| SO Cost Change | Request_outage | SO_cost_change |
| SO Cost Reference | Request_outage | SO_cost_reference |

4.30.3 Initialisation

This screen is called in one of two modes: Add or Edit, for three types of request outage: Addition, Update or Cancel, for two outage types: Standard or Comment.

In the case of update mode the request outage details are displayed according to the Screen to Database Mapping above.

If the user has 'View Request Outage' security permission but not 'Edit Request Outage' permission then all of the fields will be view only.

In the case of Add mode on an Addition outage the fields are populated as follows:

| Screen Field | Populated from/Initial Value |
|--------------|---|
| Request No | System generated – next from the request number |

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| Screen Field | Populated from/Initial Value |
|---------------------|--|
| | sequence |
| Status | 'Initial' |
| Plan Year | From the 10205AddRequestOutage screen |
| Type | 'Addition/Standard' or 'Addition/Comment' |
| Basic Outage Ref | From the 10205AddRequestOutage screen |
| Circuit/Description | Not populated. |
| In Service | Automatically checked for a Comment outage. |
| TO Lead planner | Current user's user_name (if a TO planner) The TO lead planner selection list should be limited to Users from the TO for that licenced area whether the record is being updated by an SO user or a TO User (2005) |
| Requesting Party | Current user's party (if a TO user) |
| Operational Remarks | basic_outage.remarks (joining table on basic_outage_id |
| SO Impact | basic_outage.so_significance_id (joining table on basic_outage_id |
| Demand at Risk | basic_outage.demand_at_risk (joining table on basic_outage_id |
| TO | basic_outage.tra_owner_id (joining table on basic_outage_id |

In addition the TO parties, SO parties, external parties, external party comments and free codes are copied from the basic outage record. When the parties are added to the request outage the added_via_basic_outage field in the party_link table should be set to 1.

In the case of Add mode on an Update or Cancel outage the fields are populated as follows:

| Screen Field | Populated from/Initial Value |
|--|--|
| Request No | System generated – next from the request number sequence |
| Status | 'Initial' |
| Plan Year | From the 10205AddRequestOutage screen |
| Outage number | From the 10205AddRequestOutage screen |
| Type | 'Update/Standard' or 'Cancel/Standard' |
| Basic Outage Ref | From the planned outage |
| Circuit/Description | If the planned outage.basic_outage_ref field is null then populate this field from tra_outage.description otherwise do not populate. |
| Additional Comment | tra.outage.additional_comment |
| Fault | tra_outage.fault |
| Fault Type | tra_outage.fault_type |
| Work involved | tra_outage.work_involved |
| ERTS day (both displayed and numerical values) | tra_outage.erts_day and tra_outage.erts_hours_day |
| ERTS night (both displayed and numerical values) | tra_outage.erts_night and tra_outage.erts_hours_night |

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| Screen Field | Populated from/Initial Value |
|---|--|
| C/D | tra_outage.continuous |
| In Service | tra_outage.service |
| To significance | tra_outage.to_significance |
| Rating Adjustment | tra_outage.availability |
| Work type | all values from dcd_out for the tra_outage_id |
| APA | tra_outage.planned_apa |
| PFW | tra_outage.pfw_date |
| Proposed start date / time 1 | tra_outage.start_date |
| Proposed end date / time 1 | tra_outage.end_date |
| Selected | '?' |
| TO Lead planner | Current user's user_name (if a TO planner) |
| Requesting Party | Current user's party (if a TO user) |
| Operational Remarks | tra_outage.operational_remarks |
| Winter ERTS risk | tra_outage.winter_erts_risk |
| Cost Risk | tra_outage.cost_risk |
| SO Impact | tra_outage.so_impact_id |
| Demand at Risk | tra_outage.demand_at_risk |
| TO | tra_outage.tra_owner |
| All the fields from the Risk Information screen | tra_outage.local_risk, risk, winter_erts_comment, tpso_issues, outage_justification, mitigating_actions, decision, inweek_decision, cost_risk_text, strategy, osg_actions, cost_week, pct_cost_chance, central_forecast, out_turn, cost_risk_status, cost_risk_lead_planner. |
| SO Cost change | Tra_outage.so_cost_change |
| SO Cost Reference | Tra_outage.so_cost_reference |

In addition the TO parties, SO parties, external parties, external party comments and free codes are copied from the planned outage record. When the parties are added to the request outage the added_via_basic_outage field in the party_link table should be set to the same values as the current links from the planned outage.

All other fields are set to null.

The drop lists are populated as follows:

| Screen Field | Population details |
|------------------|---|
| Status | STATUS_CODE.STATUS_CODE – Only include records where the user's role is included in the CHANGE_TO_ROLES field. The 'Pending' value should only be displayed if the user has 'Accept into Pending' security permission. The 'Planned' status should only be displayed if the user has 'Accept into Plan' permission. |
| Basic Outage Ref | basic_outage.basic_outage_id where basic_group = basic_group on the basic_outage record for the request_outage.basic_outage_id |
| Fault | Fixed values 'No', 'Trip' and 'Emergency'. |
| C/D | 'C' and 'D' |
| TO Significance | 1 – 5 |

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| Screen Field | Population details |
|------------------|---|
| Work Type | DCD.DCD_ID and DESCR – all values |
| TO Lead Planner | TOGA_USER.USER_NAME where ROLE = TO Lead Planner role as defined by the system parameters. |
| Change Code | CHANGE_CODE.CHANGE_CODE = all values where USED_BY = the basic_outage TRA_OWNER_ID or ALL. |
| Requesting Party | A combination of: a) TOPAM_SO_PARTY.SO_PARTY_ID – all values, b) TOPAM_TO_PARTY.TO_PARTY_ID – all values where TRA_OWNER_ID = basic_outage.TRA_OWNER_ID, c) External parties for the outage TO's licensed area |
| SO Impact | SO_SIGNIFICANCE.SO_SIGNIFICANCE_ID and DESCRIPTION – all values |
| SO Lead Planner | TOGA_USER.USER_NAME where ROLE = TO Lead Planner role as defined by the system parameters. |

If the user is an SO user then display the unwise asset combination messages in red (if any).

If the outage is an addition request outage which does not have a proposed outage number entered then the Link button should be disabled.

If the outage (the actual/planned outage number) has any outage links then the word '*Links*' will be displayed next to the Link button in standard text. If any of the links are in violation then the word '*Links!*' will be displayed in red text.

If the screen is in Edit mode and the user has 'Edit Request Outages' permission then the Copy button will be enabled. The delete button will also be enabled if the request outage is at status 'Cancelled'.

If the request outage is at status 'Agreed' and the user has 'Accept into Pending' permission then the 'Accept' button should be enabled.

Note: The 'Accepted' status code is now replaced by 'Agreed' and hence is no longer defined as system created which means that it can be deleted if required. (1864)

The proposed start and end dates should be displayed in both standard and engineering week day/week format (e.g. 15.2W04).

Weekend dates will be displayed with a yellow background. Public holidays will be displayed with a blue background.

The ERTS Risk and Demand Risk flags will only be visible if the user has either 'View Risk' or 'Edit Risk' security permission and will only be updatable if the person has 'Edit Risk' permission.

The Cost Risk flag will only be visible if the user has either 'View Cost Risk' or 'Edit Cost Risk' security permission and will only be updatable if the person has 'Edit Cost Risk' permission. (2072)

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If the ERTS value (day or night) or the Circuit/Description field is different to that on the associated planned outage then the field should be displayed in a different colour and the text from the planned outage should be displayed when the pointer is hovered over the appropriate field.

4.30.4 Validation

If the request outage is a 'cancel' outage then the only required field is the Eng/TO Comments field. The SO Request Comment and the status can also be entered. All other fields are display only.

| Screen Field | Field Constraints | Validation / description |
|------------------------|--|--|
| | <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | |
| Request No | Non editable | System generated |
| Status | Mandatory | Any value from the list |
| Plan Year | Non updateable | |
| Outage Number | Optional if an Addition request outage otherwise non editable | A unique code starting with the TRA_OWNER.SHORTCODE for the request_outage (via the basic_outage.tra_owner_id) |
| Type | Non editable | System set |
| Basic Outage Ref | Mandatory | Any value from the list |
| Circuit/Description | If Basic Outage Ref is not null then this field is display only otherwise it is optional. | Free text |
| Additional Description | Optional | Free text |
| User Ref | Optional | Free text – unique value for the licensed area |
| Fault | Checkbox | |
| Fault Type | Mandatory | Any value from the list |
| Work Involved | Mandatory | Free text |
| C/D | Mandatory | Any value from the list |
| ERTS (Day) | Mandatory | Format 9999A where Alpha can be 'M'(Minutes), 'H'(Hours), 'D'(Days), 'W'(Weeks) or 'ONCOM'. |
| ERTS (Night) | Mandatory if C/D is C otherwise optional | As above |
| In Service | Checkbox | Cannot be unchecked for a Comment outage. |
| TO Significance | Checkbox | |
| Eng/TO Comments | Optional (but mandatory for cancel outages) | |
| Rating Adjustment | Optional | Integer 0 – 100 |
| APA Time | Optional | Any valid date – warning given if a public holiday for the licensed area of the outage |
| PFW Time | Optional | Any valid date – warning given if a public holiday for the licensed area of the outage |

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| Screen Field | Field Constraints <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | Validation / description |
|------------------------------|---|---|
| Duration | Either proposed start date 1 and proposed end date 1 must both be entered or the duration, window start and window end must all be entered. | |
| Work Type | At least one must be selected | |
| Proposed Start Date & Time 1 | See 'Duration' | Any valid date – warning given if a public holiday for the licensed area of the outage. The date can be entered in either standard format or engineering day/week format (e.g. 15.2W04) |
| Proposed End Date & Time 1 | See 'Duration' | Same validation/formats as proposed start date & time 1 |
| Selected (1) | Mandatory | Any value from the list |
| Proposed Start Date & Time 2 | Optional | Same validation/formats as proposed start date & time 1 |
| Proposed End Date & Time 2 | Optional | Same validation/formats as proposed start date & time 1 |
| Selected (2) | Mandatory | Any value from the list |
| Window Start | See 'Duration' | Any valid date – warning given if a public holiday for the licensed area of the outage |
| Window End | See 'Duration' | Any valid date – warning given if a public holiday for the licensed area of the outage |
| Batch Upload Seq | Non editable | |
| TO Lead planner | Optional | Any value from the list |
| Commissioning Data Required | Checkbox | |
| Change Description | Optional | Free text |
| Change Code | Optional | Any value from the list |
| Requesting Party | Mandatory | Any value from the list |
| SO Request Comments | Optional | Free text |
| Operational Remarks | Optional | Free text |
| Winter ERTS Risk | Checkbox | |
| Cost Risk | Checkbox | |
| SO Impact | Mandatory | Any value from the list |
| Demand at Risk | Checkbox | |
| Nationally Secure | Checkbox | |
| Locally Secure | Checkbox | |
| TO | Non editable | |
| SO Lead Planner | Optional | Any value from the list |
| SO Cost Change | Read Only | |
| SO Cost Reference | Read Only | |

If the user saves an outage where the Rating Adjustment value has been entered but more than one asset is covered by the outage then display an appropriate warning message. Also display a warning message if the Rating Adjustment is entered on a not in service outage.

If the outage is an addition or cancellation request outage (but not a comment entry or DNO outage) then if the system date is after the freeze date for any plan year affected by the outage (not just the value in the plan year field) but the user has not entered the change description and change code fields the a warning message should be displayed and the data rejected.

If the outage is an update request outage then the change description and change code fields are only required if any of the following fields differ from the planned outage fields:

the plan year, basic outage reference, start/end dates (with selected = 'Y'), ERTS day or night, C/D, service or rating adjustment.

4.30.5 Processing

Whenever the day or night ERTS values are changed then the values should be converted into a number of hours and stored in the `erts_day_hours` or `erts_night_hours` fields, on the `request_outage` table, as appropriate.

The dates for the APA time and PFW time will be set (on the database field) to be the start date 1 or the window start date (if start date 1 not entered).

If the proposed start and end dates have been entered without times then the times should be set to be 09:00 and end times to be 17:00 on the entered dates.

If the user has selected a new basic outage reference from the list and pressed the 'Update' button then the basic outage related fields (see the table for the case of Add mode on an Addition outage in the initialisation section 4.30.3) should be re-populated from the new basic outage reference. Any parties that have been manually added to the (copied) request outage will be retained. Also if the old and new basic outages have the same external party then the external party comments will be retained.

If the either of the proposed start dates (but not those where selected=N) are on or before the current date and the fault checkbox is not checked then the system will warn the user that the outage may be a fault.

When a new request outage is saved and the user has not entered the Outage Number then the system will generate the next from the Transmission Owner's range and prefix it with either 'NG' or no prefix (if the transmission owner does not have a prefix). This is to ensure that E/W outages use a number from the MIMS range.

The 'Plan Comments' button calls the View Planned Outage Comments screen (10218ViewPlanComments).

The 'Free Codes/Parties' button calls the Edit Request Outage Parties and Free Codes screen (10219EditOutageParties)

The 'Risk Details' button calls the Edit Risk Information screen (10217EditRiskInfo) The risk details page will only be viewable if one or more of the risk checkboxes are checked and the user has 'View Risk', 'Edit Risk', 'View Cost Risk' or 'Edit Cost Risk' security permission.

The 'Link' button calls the Outage Links screen (10220OutageLinks)

The 'Copy' button causes a clone of the existing request outage to be made. This will cause the screen to clear the existing record and create a new one with all the same field values except the request number, the planned outage number and the SO comments field will be blanked. This new request outage will be an 'Addition' type outage of status 'Initial'.

The Delete button will cause the request outage to be physically deleted. This action can only be performed on an outage at 'Cancelled' status.

Selection of the 'Accept' button will call the 'Accept Request into Pending' functionality. This will also open up the Pending outage, this created, into a pop up window

If the user sets the status to 'Pending' then the system will perform the 'Accept Reqeust into Pending' functionality.

If the user sets the status to 'Planned' then the system will perform the 'Fasttrack Request into Plan' functionality.

Whenever the outage record is saved the last_updated_date and last_updated_by fields will be refreshed to the current date/time and user.

4.30.6 Use Cases Covered

'Create Request Outage' (along with 10205AddRequestOutage), Modify Outage Request, Delete Cancelled Outage, Cancel Outage Request, Change Request Status, View Outage Request.

4.31 10217EditRiskInfo

4.31.1 Security Operation Access

Accessible by 'View Risk', 'Edit Risk', 'View Cost Risk' and 'Edit Cost Risk' security permissions.

4.31.2 Risk Information Screen to Database Mapping

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This screen can be called from the Request outage process and also from the Pending and Planned outage processes. The screen mappings in the table below correspond to the Request outage process. When the screen is being used for the Pending or Planned outage process then the fields will be from the tra_outage table but will have the same field names.

| Screen Field | Database table | Field |
|------------------------|-------------------------------------|---|
| Request No | request_outage | request_outage_id |
| Outage No | request_outage | tra_outage_id |
| Circuit/Description | request_outage and /or basic_outage | basic_outage.description (or request_outage.description if no basic_outage) concatenated with request_outage.additional_description |
| Planned Outage No | request_outage | proposed_plan_number (if type = 'Addition') otherwise tra_outage_id |
| Winter ERTS Risk | request_outage | winter_erts_risk |
| Cost Risk | request_outage | cost_risk |
| Demand at Risk | request_outage | demand_at_risk |
| Local | request_outage | local_risk |
| Risks | request_outage | risk |
| Winter ERTS Risk | request_outage | winter_erts_comment |
| TPSO/Switching Issues | request_outage | tpso_issues |
| Outage Justification | request_outage | outage_justification |
| Mitigating Actions | request_outage | mitigating_actions |
| Decision | request_outage | decision |
| In-week decisions | request_outage | inweek_decision |
| Cost Risk Summary | request_outage | cost_risk_text |
| Strategy | request_outage | strategy |
| OSG Actions | request_outage | osg_actions |
| Cost/Week | request_outage | cost_week |
| Chance of occurring | request_outage | pct_cost_chance |
| Central Forecast | request_outage | central_forecast |
| Actual out-turn | request_outage | out_turn |
| Status | request_outage | cost_risk_status |
| Lead Planning Engineer | request_outage | cost_risk_lead_planner |
| Last updated details. | request_outage | last_risk_updated_date, last_risk_updated_by |

4.31.3 Initialisation

The screen should be populated with the risk details of the selected request outage according to the screen to database mapping.

The system will display the Request Number, the Planned Outage Number, the Winter ERTS risk flag and the Demand at Risk flag. Additionally if the user has 'View Cost Risk' or 'Edit Cost Risk' permission then the system will display the Cost Risk flag.

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If the request outage has been flagged as a Winter ERTS risk and the user has either 'View Risk' or 'Edit Risk' permission then the system will display the following fields: Risk, Winter ERTS Risk comment and Outage Justification.

If the request outage has been flagged as a Demand at Risk and the user has either 'View Risk' or 'Edit Risk' permission then the system will display the following fields: Risk, Local, TPSO/Switching issues, Outage Justification, Mitigating Actions, Decision and In-week Decision.

If the request outage has been flagged as a Cost Risk and the user has either 'View Cost Risk' or 'Edit Cost Risk' permission then the system will display the following fields: Risk, Cost Risk Summary, Strategy, OSG Actions, Cost/Week, Chance of Occurring, Central Forecast, Actual out-turn, Status and Lead Planning Engineer.

The user can enter details in the appropriate fields for the risk type(s) if they have 'Edit Risk' or 'Edit Cost Risk' security permissions. The risk field must be entered but the others are optional.

The drop lists are populated as follows:

| Screen Field | Population details |
|------------------------|--|
| Status | Fixed values – 'Significant', 'Active' and 'Watch' (2068) |
| Lead Planning Engineer | TOGA_USER.USER_NAME where ROLE = the SO Lead Planner role as defined by the system parameters. |

4.31.4 Validation

| Screen Field | Field Constraints | Validation / description |
|-----------------------|--|--------------------------|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Request No | Display only | |
| Planned Outage No | Display only | |
| Winter ERTS Risk | Display only | |
| Cost Risk | Display only | |
| Demand at Risk | Display only | |
| Local | Checkbox | |
| Risks | Mandatory | Free text |
| Winter ERTS Risk | Optional | Free text |
| TPSO/Switching Issues | Optional | Free text |
| Outage Justification | Optional | Free text |
| Mitigating Actions | Optional | Free text |
| Decision | Optional | Free text |
| In-week decisions | Optional | Free text |
| Cost Risk Summary | Optional | Free text |
| Strategy | Optional | Free text |

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| Screen Field | Field Constraints <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | Validation / description |
|------------------------|--|--------------------------|
| OSG Actions | Optional | Free text |
| Cost/Week | Optional | Numeric |
| Chance of occurring | Optional | 0 – 100 (%) |
| Central Forecast | Optional | Numeric |
| Actual out-turn | Optional | Numeric |
| Status | Optional | Any value from the list |
| Lead Planning Engineer | Optional | Any value from the list |

4.31.5 Processing

When the data is saved the last_risk_updated_date and last_risk_updated_by fields are updated to hold the current date/time and user.

4.31.6 Use Cases Covered

'Modify Request Outage' (along with 10219EditOutageParties, and 10210EditRequestOutage)

4.32 10220OutageLinks

4.32.1 Security Operation Access

Accessible by 'View Request Outages' and 'Edit Request Outages' security operations. Additional functionality available for users with 'View Generator Links' or 'Edit Generator Links' security operations.

4.32.2 Outage Links Screen to Database Mapping

| Screen Field | Database table | Field |
|---|----------------|---|
| Request No | N/A | The outage number passed to the screen as a parameter |
| Type | N/A | If the outage number passed as a parameter exists as a tra_outage_id on the tra_outage table then this field should contain 'Planned' otherwise it will contain 'Request' (NEED TO EXPAND THIS TO INCLUDE PENDING OUTAGES AS WELL!) |
| Linked transmission outages – Number | outage_links | Either outage_no, parent_no, leader_no or duplicate_no (for transmission types) |
| Linked transmission outages – Outage Type | N/A | If the linked outage number exists as a tra_outage_id on the |

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| Screen Field | Database table | Field |
|---|----------------|---|
| | | tra_outage table then this field should contain 'Planned' otherwise it will contain 'Request' (NEED TO EXPAND THIS TO INCLUDE PENDING OUTAGES AS WELL!) |
| Linked transmission outages – Link Type | outage_links | Either 'Parent', 'Child', 'Leader', 'Follower' or 'Duplicate' depending upon which field the current outage number (with type transmission) appear in. |
| Linked generation outages – Number | outage_links | Either outage_no, parent_no, leader_no or duplicate_no (for generation types) |
| Linked generation outages – Link Type | outage_links | Either 'Parent', 'Child', 'Leader', 'Follower' or 'Duplicate' depending upon which field the current outage number (with type transmission) appear in. |

4.32.3 Initialisation

The screen should be populated with the outage links for the current outage.

If the user does not have 'View Generator Links' or 'Edit Generator Links' then the generator outage link section of the screen will not be displayed.

If the user does not have 'Edit Request Outage' security permission then the transmission outage links fields will be display only. Additionally the user will need the 'Edit Generator Links' security permission in order to amend the generator outage links.

The drop lists are populated as follows:

| Screen Field | Population details |
|--------------|---|
| Outage Type | Fixed values – Planned and Request |
| Link Type | Fixed values – Child, Parent, Leader, Follower, Duplicate |

4.32.4 Validation

| Screen Field | Field Constraints | Validation / description |
|-----------------------------------|--|--|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Transmission Outage Number to Add | Mandatory (if adding a transmission outage link) | Must either be a tra_outage.tra_outage_id or request_outage.proposed_plan_number. The number must correspond to a non cancelled outage. If the user is a TO user then the outage must have the same TRA_OWNER value as the user. |
| Generation Outage Number | Mandatory (if adding a generation outage link) | Must exist on generator_outages.generator_outage_id |

| Screen Field | Field Constraints | Validation / description |
|--------------|--|--------------------------|
| to Add | <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | |

4.32.5 Processing

The screen allows links to be added and deleted. Links cannot be modified.

Selecting the 'Find' button for transmission outages will call 10303QueryPlannedOutages if 'Planned' is selected in the drop list, or will call 10216QueryRequestOutages if 'Request' is selected.

When a link is added a new record is written to the outage_links table. The outage_links table will specify the linked outage number and type (transmission or generation) and the parent, leader or duplicate date linked outage (number and type).

When a new outage is linked, if the date ranges of the two outages are more than 4 weeks apart then a warning message will be given.

The hyperlinks on the linked outage numbers takes the user to the 10305EditPlannedOutage, 10210EditRequestOutage or 21122ViewGen screen in view only mode to see the details of the outage.

4.32.6 Use Cases Covered

'Modify Request Outage'

4.33 10218ViewPlanComments

4.33.1 Security Operation Access

Accessible by 'View Request Outages' and 'Edit Request Outages' security operations.

4.33.2 Plan Comments Screen to Database Mapping

| Screen Field | Database table | Field |
|-----------------------------|----------------|--------------------|
| Year Ahead Comments | tra_outage | gbso_year_comm. |
| Optimisation Comments | tra_outage | gbso_optim_comm. |
| Delivery Comments | tra_outage | gbso_deliv_comm. |
| TO Comments | tra_outage | tra_owner_comm. |
| SO Comments | tra_outage | so_comments. |
| Control Room Comments | tra_outage | control_comments |
| Control Room Feedback Notes | tra_outage | control_act_comm.. |

4.33.3 Initialisation

The screen is populated with the comments fields from the planned outage referred to by the request outage according to the screen to database mapping. All of the fields are display only.

4.33.4 Validation

N/A

4.33.5 Processing

None

4.33.6 Use Cases Covered

None!

4.34 10219EditOutageParties**4.34.1 Security Operation Access**

Accessible by 'View Request Outages' and 'Edit Request Outages' security operations.

4.34.2 Request Parties Screen to Database Mapping

| Screen Field | Database table | Field |
|-------------------------|--|---|
| Request No | request_outage | request_outage_id |
| Outage No | request_outage or tra_outage | tra_outage_id |
| Circuit/Description | request_outage or tra_outage | description concatenated with request_outage.additional_description |
| Free Codes | FREE_CODE (linked via request_out_free_code table) | FREE_CODE_ID and DESCRIPTION |
| Equip Owner | BASIC_OUTAGE | V_EQUIPMENT_OWNER_ID |
| TO Parties | TOPAM_TO_PARTY (via PARTY_LINK for 'REQUEST' and 'TO_PARTY') | TO_PARTY_ID, DESCR |
| SO Parties | TOPAM_SO_PARTY (via PARTY_LINK for 'REQUEST' and 'SO_PARTY') | SO_PARTY_ID, DESCR |
| External Parties | EXT_PARTY (via PARTY_LINK for 'REQUEST' and 'EXT_PARTY') | EXT_PARTY_ID and DESCR |
| External Party Comments | PARTY_LINK for 'REQUEST' and 'EXT_PARTY' | EXT_PARTY_COMMENT |
| Substations | SUBSTATION (via basic_sub_out table) | SUBSTATION_ID and DESCRIPTION |

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| Screen Field | Database table | Field |
|------------------|-----------------------------------|--|
| Assets | ASSET (via basic_out_asset table) | ASSET_ID, DESCRIPTION and OWNER_CODE (in brackets) |
| Tower References | BASIC_TOWER_REF | BASIC_TOWER_ID |

4.34.3 Initialisation

The screen will be populated according to the screen to database mapping above.

If the user is a TO then the External Party comments should not be visible.

If the user is a TO user then they should not be able to add or remove SO or external parties. This is achieved by disabling the Add buttons, delete icons and the drop lists for the SO Parties and External Parties fields.

If the user does not have 'Edit Request Outage' security permission then the fields will all be display only.

The drop lists are populated as follows:

| Screen Field | Population details |
|----------------------|--|
| Add Free Code | FREE_CODE.FREE_CODE_ID – All records where the USED_BY matches the licensed area of the request outage or 'ALL' |
| Add TO Parties | TOPAM_TO_PARTY.TO_PARTY_ID and DESCRIPTION – All records where TRA_OWNER_ID matches the licensed area of the request outage. |
| Add SO Parties | TOPAM_SO_PARTY.SO_PARTY_ID – all records |
| Add External Parties | EXT_PARTY.EXT_PARTY_ID – all records |

4.34.4 Validation

| Screen Field | Field Constraints | Validation / description |
|-------------------------|--|--|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Free Codes | Optional | Add and delete from list |
| Equip Owner | Display only | |
| TO Parties | Optional | Add and delete from list |
| SO Parties | Optional | Add and delete from list |
| External Parties | Optional | Add and delete from list |
| External Party Comments | Optional | Validation: Users should not be able to view external party comments unless they are authorised to view this data.(1570) |
| Substations | If outage has basic reference then Display only otherwise Optional | |
| Assets | Display only | |
| Tower References | Display only | |

4.34.5 Processing

The free codes, TO parties, SO parties and external parties lists are populated using the standard technique of picking a new value from the drop down list and pressing the Add button to add the item. The items can be removed by pressing the delete icon. When a party is added the added_via_basic_outage field on the party link should be set to 0.

If the outage has a basic reference specified then the substations can not be amended and the add and delete options should not be allowed. If the basic reference is null then the user can add and remove substations in the usual way.

The external party comments can be added and amended in any displayed external party. The 'Save Comments' button is used to save the details to the database.

When the data is saved the last_updated_date and last_updated_by fields are updated to hold the current date/time and user.

4.34.6 Use Cases Covered

'Modify Request Outage' (along with 10217EditRiskInfo, and 10210EditRequestOutage)

4.35 10208UpdateableRequestList

4.35.1 Security Operation Access

Accessible by 'Edit Request Outages' security operation.

4.35.2 Initialisation

The list of request outages is displayed in ascending Start Date, Request No or Outage No order.

The following fields are displayed:

| Screen Field | Database table | Field |
|--------------|----------------|--|
| Request No | request_outage | request_outage_id |
| Type | Request_outage | Type |
| Outage No | request_outage | For an addition request outage the proposed_plan_number is displayed. For an update or cancel request outage then the tra_outage_id. The outage number should be appended with '-A', '-U' or '-C' to indicate whether the request |

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| Screen Field | Database table | Field |
|---------------------|---|--|
| | | outage is an addition, update or cancellation outage. |
| Status | request_outage | Status. |
| Work Involved | request_outage | Work_involved |
| Circuit/Description | basic_outage (joined via basic_outage_id) OR request_outage | If the basic_outage_id field is not null then this field will map to basic_outage.description. If the basic_outage_id field is null then this field will map to request_outage.description |
| TO/Eng Comments | request_outage | TO_comments |
| SO Comments | request_outage | so_comments |
| Service | request_outage | Service – checkbox checked for a value of 1. |
| Fault | request_outage | fault - checkbox checked for a value of 1 fault_type – First letter – Do not display if fault = 0 |
| Start Date 1 | request_outage | proposed_start1 |
| End Date 1 | request_outage | proposed_end1 |
| Selected 1 | request_outage | selected_date1 |
| Start Date 2 | request_outage | proposed_start2 |
| End Date 2 | request_outage | proposed_end2 |
| Selected 2 | request_outage | selected_date2 |
| Window Start Date | request_outage | window_start |
| Window End Date | request_outage | window_end |
| ERTS Risk | request_outage | winter_erts_risk |
| Demand Risk | request_outage | demand_at_risk |
| Cost Risk | request_outage | cost_risk. Only display this field if the user has 'View Cost Risk' or 'Edit Cost Risk' permission (2072) |

The records displayed depend upon the query parameters entered in 1010101QueryBasicOutages as follows:

| Screen Field | Purpose |
|--------------------|--|
| Request No | Request_outage_id must begin with the value entered in the parameter (if entered) |
| Plan Year | plan_year must equal this parameter (if entered) |
| Outage No | tra_outage_id must begin with the value entered in the parameter (if entered) |
| Lead Planner | Either the to_lead_planner or the so_lead_planner must match this parameter (if entered) |
| Basic Reference | Basic_outage_id must begin with the value entered in the parameter (if entered) |
| Fault Outages Only | If checked then only include outages where fault=1. |
| Licensed Area | Tra_owner_id must equal this parameter (if entered) |
| Status | The Status field must match this parameter |
| Parties | The request outage must be linked to all of the parties in the parameter list. |

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| Screen Field | Purpose |
|--|--|
| | The parties will either be SO or TO parties. |
| Batch Upload Seq | batch_upload_seq must equal this parameter (if entered) |
| 'Date Range' and 'Only show request outages starting or ending within the date range?' | If the checkbox is unchecked then all outages whose have a date range intersecting with the date range parameter will be displayed. If the request outage has more than one range that match the date range then the request outage will be selected multiple times. If the checkbox is checked then only outages that have a start date/window or end date/window falling within the date range parameters are displayed. |
| Substations | If the 'Outage must include all substations' checkbox was checked then only outages with all the selected substations should be displayed, otherwise all outages that include one or more of the substations should be displayed. |
| Display requests where status has changed since | If this date is entered then only request outages with a status_last_updated_date field greater than or equal to this parameter will be displayed. |

If the user is an SO user then the system will run the unwise asset combination check for each set of proposed dates for each request outage displayed in the list. If any other assets in the unwise group are on outage at the same time then the system will display a red exclamation mark next to the appropriate start date field.

Display weekend dates with a yellow background and public holidays, for the TO, with a blue background.

If the outage has any outage links defined then the system will check if any of the links are being violated by either proposed date range. If any are then the system will display the red exclamation mark (as above). Only show the effect of generator outage links if the user has 'Edit Generator Links' or 'View Generator Links' security permissions.

The 'Accept into Pending' button is only available if the user has 'Accept into Pending' permission.

The 'Fasttrack into Plan' button is only available if the user has 'Fasttract into Plan' permission.

The drop lists are populated as follows:

| Screen Field | Population details |
|-------------------------|---|
| Status | STATUS_CODE.STATUS_CODE – Only include records where the user's role is included in the CHANGE_TO_ROLES field. The 'Pending' value should only be displayed if the user has 'Accept into Pending' security permission. The 'Planned' status should only be displayed if the user has 'Accept into Plan' permission. |
| Selected (Both 1 and 2) | Fixed values – 'Y', 'N' and '?' |

4.35.3 Validation

If the request outage is a 'cancel' outage then the only required field is the Eng/TO Comments field. The SO Request Comment and the status can also be entered. All other fields are display only.

| Screen Field | Field Constraints <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | Validation / description |
|------------------------|--|---|
| Request No | Non editable | System generated |
| Type | Non editable | |
| Outage Number | Non editable | |
| Status | Mandatory | Any value from the list |
| Circuit/Description | If Basic Outage Ref is not null then this field is display only otherwise it is optional. | Free text |
| Additional Description | Optional | Free text |
| Work Involved | Non editable | Free text |
| Eng/TO Comments | Optional (but mandatory for cancel outages) | |
| In Service | Checkbox | Cannot be unchecked for a Comment outage. |
| Fault | Checkbox | |
| SO Comments | Optional | Free text |
| Proposed Start Date 1 | Mandatory if duration and window start/end dates do not exist on the record | Any valid date – warning given if a public holiday for the licensed area of the outage. The date can be entered in either standard format or engineering day/week format (e.g. 15.2W04) |
| Proposed End Date 1 | As proposed start date (above) | Same validation/formats as proposed start date & time 1 |
| Selected (1) | Mandatory | Any value from the list |
| Proposed Start Date 2 | Optional | Same validation/formats as proposed start date & time 1 |
| Proposed End Date 2 | Optional | Same validation/formats as proposed start date & time 1 |
| Selected (2) | Mandatory | Any value from the list |
| Window Start/End | Non editable | |
| Winter ERTS Risk | Checkbox | |
| Demand at Risk | Checkbox | |
| Cost Risk | Checkbox | |

If the outage is an addition or cancellation request outage (and not a comment entry) then if the system date is after the freeze date for any plan year affected by the outage (not just the value in the plan year field) but the user has not entered the change description and change code fields the a warning message should be displayed but the data will be saved.

If the outage is an update request outage then the change description and change code fields are only required if any of the following fields differ from the planned outage fields:

the plan year, basic outage reference, start/end dates (with selected = 'Y'), ERTS day or night, C/D, service or rating adjustment.

4.35.4 Processing

NOTE: Fields are editable only if the role of the user have appropriate permission to edit the data at that request_status (as set in status_code_role_link table) – (1572)

The Request No and Outage No fields are links to pop up views of the request outage and planned outage (if an update or cancellation request) respectively. The Work Involved link displays a read only popup of the work involved field.

Whenever the day or night ERTS values are changed then the values should be converted into a number of hours and stored in the erts_day_hours or erts_night_hours fields as appropriate.

If the either of the proposed start dates (but not those where selected=N) are on or before the current date and the fault checkbox is not checked then the system will warn the user that the outage may be a fault.

The 'All' button causes all of the Accept checkboxes to be checked.

Selection of the 'Accept into Pending' button will call the 'Accept Request into Pending' functionality for each outage which has the 'Accept' checkbox checked.

If the 'Fasttrack into Plan' button is pressed then the 'Fasttrack Request into Plan' functionality will be performed for each outage that has the 'Accept' checkbox checked.

If the user sets the status of an outage to 'Pending' then the system will perform the 'Accept Request into Pending' functionality upon saving the data.

If the user sets the status to 'Planned' then the system will perform the 'Fasttrack Request into Plan' functionality on the outage.

Whenever the outage record is saved the last_updated_date and last_updated_by fields will be refreshed to the current date/time and user.

4.35.5 Validation

N/A

4.35.6 Use Cases Covered

'Display Updateable List'

4.36 10301ListPlannedOutages

4.36.1 Security Operation Access

Accessible by 'View Pending Outages', 'Edit Pending Outages', 'View Planned Outages' and 'Edit Planned Outages' security operations.

4.36.2 Initialisation

The list of planned and/or pending outages is displayed in either ascending Outage No, Start Date or Last Updated Date order.

The following fields are displayed:

| Screen Field | Database table | Field |
|---------------------|---|--|
| No title | tra_outage | If the pending field = 1 then display 'Pending' otherwise display 'Planned'. |
| Type | Tra_outage | Type – display: blank for 'Standard', 'DNO' for 'DNO Outage', 'TO' for 'TO Booking', 'CMT' for 'Comment' and 'SO' for 'SO Confidential'. |
| Outage No | tra_outage | tra_outage_id |
| Plan Year | tra_outage | plan_year |
| Circuit/Description | basic_outage (joined via basic_outage_id) OR tra_outage | If the basic_outage_id field is not null then this field will map to basic_outage.description. If the basic_outage_id field is null then this field will map to tra_outage.equip_desc |
| Start Date | tra_outage | start_date |
| End Date | tra_outage | end_date |
| Risk | tra_outage | if any of the winter_erts_risk, cost_risk or demand_at_risk fields contain 1 then display 'Risk' as a link. The link will only be displayed if the user has 'View Risk', 'Edit Risk', 'View Cost Risk' or 'Edit Cost Risk' permission. |
| History | tra_outage_history | if the outage is a planned outage and one or more records exist on the tra_outage_history for the outage then display the History link. |
| Status | tra_outage | status. |

If user is a commissioning user and has opted for viewing commissioning record (Refer 10303QueryPlannedOutages), display the commissioning records below

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the list of outages. The record will be displayed with following fields: Record Id, Effective Date, Status, Nature of Change, *Record type*, *HVSCC (required)*, *IEMS (required)*. Record Id on click opens up the details of the commissioning record in a separate window

The records displayed depend upon the query parameters entered in 10303QueryPlannedOutages as follows:

| Screen Field | Purpose |
|--|--|
| Outage No | Tra_outage_id must begin with the value entered in the parameter (if entered) |
| Plan Year | Plan_year must equal this parameter (if entered) |
| Basic Reference | Basic_outage_id must begin with the value entered in the parameter (if entered) |
| Licensed Area | Tra_owner_id must equal this parameter (if entered) |
| 'In Plan' Status | The Status field must match one of the selected values ('Planned','Started','Complete'). If 'Any' is checked then display records of status either of ('Planned','Started','Complete'. |
| 'Not in plan' status | When selected one or more values, report to additionally include outages which are not in plan (i.e. with status 'Not Taken', 'Cancelled' Or 'TBA'). This option is not available if user is searching for 'Pending' outages alone. Also this option is not available on 'DNO Query' screen. If none of the values selected, it means report will not select records having these status values. |
| Parties | The outage must be linked to all (AND) or at least one (OR) of the parties in the parameter list. The parties will either be SO or TO parties. |
| Work Types | The outage must be linked to all (AND) or at least one (OR) of the Work types in the parameter list. |
| Free Codes | The outage must be linked to all (AND) or at least one (OR) of the Free Codes in the parameter list. |
| Substations | If the 'Outage must include all substations' checkbox was checked then only outages with all the selected substations should be displayed, otherwise all outages that include one or more of the substations should be displayed. |
| ERTS between | The erts_hours_days or erts_hours_night must be greater than or equal to the from value (if entered) and less than or equal to the to value (if entered) |
| TO significance | The value must match that on the outage. |
| Only display | IF no checkboxes checked then the list will include outages regardless of whether they are fault, risk and commission outages. If any these checkboxes are checked then the list will only include these outage variants. |
| SO Impact | The outage must be of one of the checked values. |
| Outage Types | The list will include standard outages, SO Confidential, comment , TO Booking and DNO outages according to the checked checkboxes. |
| Display | The list will either include Planned outages, Pending outages or both. |
| 'Date Range' and 'Only show outages starting or ending within the date range?' | If the checkbox is unchecked then all outages whose have a date range intersecting with the date range parameter will be displayed. If the request outage has more than one range that match the date range then the request outage will be selected multiple times. If the checkbox is checked then only outages that have a start date/window or end date/window falling within the date range parameters are displayed. |
| Display outages which | If this date is entered then only outages with a last_updated_date field greater than or equal to this parameter will be displayed. |

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| Screen Field | Purpose |
|------------------------------|--|
| have changed since | |
| SO Cost Change | Checkbox. If checked, then only request outages with 'SO Cost change' flag set, are displayed. |
| SO Cost Reference | If this is entered, only request outages with SO Cost reference equal to this parameter are displayed |
| Display Commissioning Record | Checkbox. Available only for Commissioning users. (refer 10303QueryPlannedOutages for its functioning) |

The 'Accept' button is only available if the user has 'Accept into Plan' permission.
 The 'Print List' button is only available if the user has 'Print General Outage Report' permission.

4.36.3 Processing

When viewing a pending outage the system should highlight the information (fields) that have changed compared to the planned outage record of the same number. Also if the mouse "hovers" over the changed fields there should be a popup that does not obscure the existing field showing the record detail from the planned version enabling identification of actual change.(1954)

Selection of the Outage No hyperlink will call 10305EditPlannedOutage and open in a new window. User can press 'Refresh List' button on the list to periodically refresh the list using the same query parameters.

Selection of the Risk hyperlink will call 10217EditRiskInfo.

The 'All' button causes all of the Accept checkboxes to be checked.

If the user presses the 'Accept' button, after checking the Accept checkbox on one or more outages, then the system must check that all the selected outages have a status of 'Awaiting Agreement'.

The system will then call the 'Accept Pending into Plan' processing for each selected outage.

4.36.4 Validation

4.36.5 Use Cases Covered

'List Outages' (along with 10303QueryPlannedOutages)

4.37 10302AddPlannedOutage

4.37.1 Security Operation Access

Accessible by 'Edit Pending Outage' and 'Edit Planned Outage' security operation.

4.37.2 Initialisation

The drop lists are populated as follows:

| Screen Field | Population details |
|-------------------------|--|
| Plan Year | PLAN_YEAR.PLAN_YEAR – If the user is an SO user then display all distinct values. If the user is a TO user then only display records where the TRA_OWNER matches the user's TRA_OWNER value. |
| Outage reference/number | Fixed values – 'Basic' and 'Planned' |
| Type of new outage | Fixed values – 'Standard', 'Comment', 'TO Booking', 'DNO Outage' and 'SO Confidential'. |
| <outage type> | Fixed values – 'Create a New Pending Outage', 'Create Pending to Update Outage', 'Create Pending to Cancel Outage' and ' Create New Planned Outage'. |

4.37.3 Validation

When querying for correct basic outage from create new outage screen it should only display Basic outages of status 'Accepted'. If an incorrect one is typed directly in the box then it should reject with an appropriate message. (1887)

| Screen Field | Field Constraints | Validation / description |
|-------------------------|--|---|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Plan Year | Optional | Any value from list |
| Outage Reference/Number | Optional | <p>If the type is 'Basic' then this value must be a valid basic outage reference code.</p> <p>If the type is 'Planned' then this value must be a valid planned outage reference code.</p> <p>The value, whether basic or planned, must match the user's tra_owner value if user is a TO user.</p> |

4.37.4 Processing

The types of outages that can be created depends upon the user type (whether TO or SO) and the type of outage they have chosen as the reference (either planned, basic comment, basic DNO or basic standard).

The allowable options are shown in the following table:

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| User Type | Reference outage | New Outage Type | Action | Notes |
|-----------|------------------|--|---|--|
| TO | Blank | TO Booking | New planned | |
| SO | Blank | Comment | New planned | |
| | | DNO Outage | New planned | |
| | | SO confidential | New planned | |
| TO | Basic | Standard (but system may decide it is a comment) | New pending | If the basic outage is a comment outage then create a comment pending otherwise create a standard pending outage |
| | | TO Booking (but only against DNO basic) | New plan | Error if basic outage has not a DNO equipment owner |
| SO | Basic | Standard (but may be comment) | New pending/plan | If the basic outage is a comment outage then create a comment pending otherwise create a standard pending outage |
| | | DNO Outage | New planned | Error if basic outage has not a DNO equipment owner |
| | | SO confidential | New planned | |
| TO/SO | Planned | Not active | New pending to update/cancel a planned outage | |

The initial selection should limit the later options. E.g. if a TO user chooses a basic outage reference then the New Outage Type field should be limited to 'Standard' and 'TO Booking'.

Depending upon whether 'Basic' or 'Planned' is chosen in the drop list, the 'Find' button will take the user to the 1010101QueryBasicOutages or 10303QueryPlannedOutages screen in Search mode. This will enable the user to select a basic outage reference or a planned outage number.

When the user presses the Create Outage button the 10305EditPlannedOutage screen will be called and the new pending/planned outage displayed. The type (Standard, TO Booking, Comment, DNO Outage or SO Confidential) and purpose (Addition, Update or Cancel) will be set according to the options selected (in the above table).

4.37.5 Use Cases Covered

'Create Outage' (along with 10305EditPlannedOutage).

4.38 10303QueryPlannedOutages

4.38.1 Security Operation Access

If the user has 'View Pending Outages' or 'Edit Pending Outages' security permission then they will be able to query pending outages. If the user has 'View Planned Outages' or 'Edit Planned Outages' security permission then they will be able to query planned outages

4.38.2 Initialisation

The drop lists are populated as follows:

| Screen Field | Population details |
|-------------------|--|
| Display | Fixed values – 'Planned Outages', 'Pending Outages', 'Both'. – Depending upon whether the user's security permissions allow viewing of planned outages, pending outages or both. |
| Plan Year | PLAN_YEAR.PLAN_YEAR – If the user is an SO user then display all distinct values. If the user is a TO user then only display records where the TRA_OWNER matches the user's TRA_OWNER value. |
| Licensed Area | TRA_OWNER.TRA_OWNER_ID – If the user is an SO user then display all records. If the user is a TO user then only display their TRA_OWNER_ID in the list. Include a blank entry in the list |
| Parties | If user is an SO user then include all records from TOPAM_SO_PARTY and TOPAM_TO_PARTY tables. If the user is a TO user then show all records from the TOPAM_SO_PARTY table but only show records from TOPAM_TO_PARTY where the TRA_OWNER matches the users TO value. |
| Status | Fixed values – If the user has chosen to view pending outages then the list contains 'Editable', 'Awaiting Agreement' and 'Rejected Pending'. If the user has chosen to view planned outages then the list contains 'Planned', 'Started', 'Complete',. If a user can view both then the list contains all of the above values. |
| Work Type | DCD.DCD_ID – all records. |
| Free Codes | FREE_CODE.FREE_CODE_ID – all records. |
| Substation Groups | SUBSTATION_GROUP.SUBSTATION_GROUP_ID – all records. |
| TO Significance | Fixed values 1 – 5 |
| Order by | Fixed values – Start Date, Outage No, and Last Updated |

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| Screen Field | Population details |
|-------------------|---|
| Display List Type | Fixed values – currently only 'Standard List' |

Only display the 'SO Confidential' checkbox (and title) to users with either View/Edit TOPAM SO confidential outages: security operations.(1461)

4.38.3 Processing

All fields are optional entry.

The date range checkbox determines whether all outages intersecting with the date range should be included or just those starting or ending in the date range. However, for External users – DNO Query, the outages which start beyond a user defined (system parameter) date are not displayed, even though date range (of the plan year OR user specified) goes beyond it.

The list of substations can be populated by the user choosing 'Substation', entering one or more (comma separated) substation codes in the field and then pressing the 'Add' button to add them to the list. Alternatively the user can press the 'Find' button, which will take the user to the substation query screen (1010301QuerySubStns) and allow them to find a substation which will then be brought back to this screen for inclusion in the substation list.

As a shortcut to adding substations the user can enter a substation group by choosing 'Group', entering a substation group code in the field and pressing the Add button to add the group to the list. Alternatively the user can press the 'Find' button, which will take the user to the substation group list screen (1010305ListSubStnGroups) and allow them to find a substation group, which will then be brought back to this screen for inclusion in the list.

If the 'Outage must include all Substations?' checkbox is selected then the query will only return outages that include all of the substations in the list. If the checkbox is unchecked then any outages that contain one or more of the substations will be selected.

The checkboxes for SO Impact 'A', 'B' and 'C' should be checked by default upon entry to the screen.

The 'List' button will call 10301ListPlannedOutages.

Validation:

- a) The winter ERTS risk and demand at risk checkboxes should only be displayed if the user has Edit/ View Risk permission.
- b) The cost risk checkbox should only be displayed if the user has Edit/ View cost risk permission.(1461)

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A checkbox 'Display Commissioning Records' is available only for commissioning users. If this checkbox is checked, display the commissioning records (just below outage records) which:

- ✓ are linked to a planned outage having the outage number OR licence Area OR substation OR work type OR free codes OR parties as mentioned on the query screen.
- ✓ are not linked to planned outages, but meet the query criteria Date Range OR Substation OR Licence Area, as mentioned on the query screen.

4.38.4 Use Cases Covered

'List Outages' (along with 10301ListPlannedOutages)

4.39 10305EditPlannedOutage

4.39.1 Security Operation Access

Accessible by 'Edit Planned Outages' security operation.

4.39.2 Request Outage Screen to Database Mapping

| Screen Field | Database table | Field |
|------------------------|---|---|
| Plan Number | tra_outage | proposed_plan_number (if type = 'Addition') otherwise tra_outage_id |
| Status | tra_outage | status |
| Plan Year | tra_outage | plan_year |
| Type | tra_outage | type / purpose |
| Basic Outage Ref | tra_outage | basic_outage_id |
| Circuit/Description | basic_outage (joined via basic_outage_id) OR tra_outage | If the basic_outage_id field is not null then this field will map to basic_outage.description. If the basic__outage_id field is null then this field will map to tra_outage.description |
| Additional Description | tra_outage | additional_description |
| User Ref | tra_outage | client_id |
| Fault | tra_outage | fault & fault_type |
| Work Involved | tra_outage | work_involved |
| C/D | tra_outage | continuous |
| ERTS (Day) | tra_outage | erts_day |
| ERTS (Night) | tra_outage | erts_night |
| In Service | tra_outage | service |
| TO Significance | tra_outage | to_significance |

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| Screen Field | Database table | Field |
|----------------------|-------------------------------|--|
| Eng/TO Comments | tra_outage | tra_owner_comm. |
| Rating Adjustment | tra_outage | availability |
| Work Type | Dcd_outage | dcd_id The multiple values will be selected in the list and also displayed on the screen next to the list (to avoid the user having to scroll down to found out which Work Types are selected). |
| PER Date & Time | tra_outage | per_date |
| APA Date & Time | tra_outage | apa_date |
| Planned Start | tra_outage | start_date |
| Planned End | tra_outage | end_date |
| Request Outages | tra_outage or request_outages | For a pending outage display the request_outage_id and status from the request_outage table where the request_outage_id equals tra_outage. current_request_outage_id For a planned outage display a list of the request_outage_id and status from the request_outage table where the tra_outage_id matches the current record. |
| PFW Date & Time | tra_outage | pfw_date |
| Actual Start | tra_outage | actual_start |
| Actual End | tra_outage | actual_end |
| TO Lead planner | tra_outage | to_lead_planner |
| Change Description | tra_outage | change_description |
| Requesting Party | tra_outage | requesting_party |
| Change Code | tra_outage | change_code |
| Rejection Reason | tra_outage | rejection_reason |
| SO Comments | tra_outage | so_comments |
| Operational Remarks | tra_outage | operational_remarks |
| Winter ERTS Risk | tra_outage | winter_erts_risk |
| Cost Risk | tra_outage | cost_risk |
| SO Impact | tra_outage | so_impact |
| Demand at Risk | tra_outage | demand_at_risk |
| | | |
| | | |
| TO | tra_outage | tra_owner_id |
| SO Lead Planner | tra_outage | so_lead_planner |
| Last updated details | tra_outage | last_updated_date and last_updated_by |
| SO Cost Change | Tra_outage | SO_cost_change |
| SO Cost Reference | Tra_outage | SO_cost_reference |
| | | |

4.39.3 Initialisation

This screen is called in one of two modes: Add or Edit, for three types of request outage: Addition, Update or Cancel, for five outage types: Standard, Comment,

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TO Booking, DNO outage or SO Confidential, for either Pending or Planned outages. In the case of Adding an addition pending outage or a planned outage the new outage may be based on either a basic outage or a planned outage.

In the case of update mode the pending or planned outage details are displayed according to the Screen to Database Mapping above.

If the user has 'View Pending Outage' or 'View Planned Outage' security permission but not 'Edit Pending Outage' or 'Edit Planned Outage' permission then all of the fields will be view only.

In the case of Add mode on an Addition pending outage being based upon a basic outage the fields are populated as follows:

| Screen Field | Populated from/Initial Value |
|---------------------|---|
| Plan Number | leave blank |
| Status | Editable |
| Plan Year | From the 10302AddPlannedOutage screen |
| Purpose / Type | 'Addition/Standard' or 'Addition/Comment' |
| Basic Outage Ref | From the 10302AddPlannedOutage screen. Instead of just a list of codes it would be preferred to have a full description on mouse over of that reference. (2095) |
| Circuit/Description | Not populated. |
| In Service | Automatically checked for a Comment outage. |
| TO Lead planner | Current user's user_name (if a TO user) |
| Requesting Party | Current user's party (if a TO user) |
| Operational Remarks | basic_outage.remarks (joining table on basic_outage_id) if specified otherwise leave blank |
| SO Impact | basic_outage.so_significance_id (joining table on basic_outage_id) if specified otherwise leave blank |
| Demand at Risk | basic_outage.demand_at_risk (joining table on basic_outage_id) if specified otherwise leave blank |
| TO | basic_outage.tra_owner_id (joining table on basic_outage_id) if specified otherwise leave blank |
| | Not displayed on screen but the tra_outage.pending field should be set to 1. |

In addition the TO parties, SO parties, external parties, external party comments and free codes are copied from the basic outage record. When the parties are added to the request outage the added_to_request field in the party_link table should be set to 0.

In the case of Add mode on a planned outage being based upon a basic outage the fields are as the new pending outage as above except for:

| Screen Field | Populated from/Initial Value |
|--------------|---|
| Status | Planned |
| Type | From the 10302AddPlannedOutage screen (e.g. standard) |

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In the case of Add mode on an Update or Cancel outage the fields on the pending outage are set exactly the same as the associated planned outage except as follows:

| Screen Field | Populated from/Initial Value |
|----------------|--|
| Status | Editable |
| Purpose / Type | 'Update/Standard', 'Update/Comment', 'Cancel/Standard' or 'Cancel/Comment' |
| | Not displayed on screen but the tra_outage.pending field should be set to 1. |

In addition the TO parties, SO parties, external parties, external party comments and free codes are copied from the planned outage record to the pending outage record. When the parties are added to the pending outage the added_to_request field in the party_link table should be set to the same values as the current links from the planned outage.

All other fields are set to null.

If the screen is displaying an update pending outage then any fields which differ from those on the associated planned outage should be highlighted and the screen should show the value from the planned outage when the mouse pointer is hovered over the field.

The drop lists are populated as follows:

| Screen Field | Population details |
|------------------|---|
| Status | Fixed values – For a pending outage type then the list contains 'Editable' and 'Awaiting Agreement'. For a planned outage then the list contains 'Planned', 'Not Taken', 'TBA' and 'Cancelled'. |
| Basic Outage Ref | basic_outage.basic_outage_id where basic_group = basic_group on the basic_outage record for the request_outage.basic_outage_id. In the case of a DNO outage the list should only contain basic outages who have a DNO equipment owner. |
| Fault | Fixed values 'No', 'Trip' and 'Emergency'. |
| C/D | 'C' and 'D' |
| TO Significance | 1 – 5 |
| Work Type | DCD.DCD_ID and DESCR – all values |
| TO Lead Planner | TOGA_USER.USER_NAME where ROLE = TO Lead Planner role as defined by the system parameters. The TO lead planner selection list should be limited to Users from the TO for that licenced area whether the record is being updated by an SO user or a TO User (2005) |
| Change Code | CHANGE_CODE.CHANGE_CODE = all values where USED_BY = the basic_outage TRA_OWNER_ID or ALL. |
| Requesting Party | A combination of: a) TOPAM_SO_PARTY.SO_PARTY_ID – all values, b) TOPAM_TO_PARTY.TO_PARTY_ID – all values where TRA_OWNER_ID = basic_outage.TRA_OWNER_ID, c) External parties for the outage TO's licensed area |

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| Screen Field | Population details |
|-----------------|--|
| Create | Fixed values – ‘New Request’, ‘New Pending’. |
| SO Impact | SO_SIGNIFICANCE.SO_SIGNIFICANCE_ID and DESCRIPTION – all values |
| SO Lead Planner | TOGA_USER.USER_NAME where ROLE = TO Lead Planner role as defined by the system parameters. |

Additionally, external Party, SO and TO Parties, Free Codes should be carried forward to the Pending outage (2050)

If the outage is an ‘SO Confidential’ outage then display the outage type field in a bright colour.

For a pending outage at the ‘Awaiting Agreement’ status if the user is an SO user then the fields in the top section of the screen will be read only. For a TO user all of the fields will be read only.

If the user is an SO user then display the unwise asset combination messages in red (if any).

If the outage has any outage links then the word ‘*Links*’ will be displayed next to the Link button in standard text. If any of the links are in violation then the word ‘*Links!*’ will be displayed in red text.

If the screen is showing a planned outage in Edit mode and the user has ‘Edit Planned Outages’ permission then the Copy button will be enabled. The copy button will likewise be enabled for pending outages.

The delete button will be enabled for a pending outage and also a planned outage which is not at status ‘Started’ or ‘Complete’.

If the pending outage is at status ‘Awaiting Agreement’ and the user has ‘Accept into Plan’ permission then the ‘Accept’ and ‘Reject’ buttons should be enabled.

The planned start and end dates should be displayed in both standard and engineering week day/week format (e.g. 15.2W04).

The ERTS Risk and Demand Risk flags will only be visible if the user has either ‘View Risk’ or ‘Edit Risk’ security permission and will only be updatable if the person has ‘Edit Risk’ permission.

The Cost Risk flag will only be visible if the user has either ‘View Cost Risk’ or ‘Edit Cost Risk’ security permission and will only be updatable if the person has ‘Edit Cost Risk’ permission.

If the user is a TO user then the only editable fields are work involved, Work type, TO Planner, Eng/TO Comments, APA and PFW fields. In addition the start time should be updateable as long as the planned start date is a least a defined

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number of days away from the current system date. (The number of days will be defined in a system parameter)

4.39.4 Validation

If the request outage is a ‘cancel’ pending outage then the only required field is the Eng/TO Comments field. The SO Request Comment and the status can also be entered. All other fields are display only.

| Screen Field | Field Constraints <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | Validation / description |
|------------------------|--|---|
| Plan Number | Optional for an additional pending outage and a new planned outage, otherwise non editable | A unique code starting with the TRA_OWNER.SHORTCODE |
| Status | Mandatory | Any value from the list |
| Plan Year | Non updateable | |
| Type | Non editable | System set |
| Basic Outage Ref | Mandatory | Any value from the list |
| Circuit/Description | If Basic Outage Ref is not null then this field is display only otherwise it is optional. | Free text |
| Additional Description | Optional | Free text |
| User Ref | Optional | Free text – unique value for the licensed area |
| Fault | Checkbox | |
| Fault Type | Mandatory | Any value from the list |
| Work Involved | Mandatory | Free text |
| C/D | Mandatory | Any value from the list. If an SO edits a planed outage from one day to make a 2 day outage. System should warn user that they may need to change the C/D flag from D to C and enter an Night ERTS. (if not already done) This should be a pop up box which says “Do you wish to change the C/D flag to C” there should be a choice of two buttons either “return to outage and update” or “accept change” This also needs to be done when a TO is submitting a pending update to SO. (1999) |
| ERTS (Day) | Mandatory | Format 9999A where Alpha can be ‘M’(Minutes), ‘H’(Hours), ‘D’(Days), ‘W’(Weeks) or ‘ONCOM’. |
| ERTS (Night) | Mandatory if C/D is C otherwise optional | As above |
| In Service | Checkbox | Cannot be unchecked for a Comment outage. |

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| Screen Field | Field Constraints <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | Validation / description |
|-------------------|--|---|
| TO Significance | Checkbox | |
| Eng/TO Comments | Optional (but mandatory for cancel outages) | |
| Rating Adjustment | Optional | Integer 0 – 100 |
| Work Type | At least one must be selected | |
| PER Date & Time | Optional | Any valid date – warning given if a public holiday for the licensed area of the outage and date is different to planned start |
| APA Date & Time | Optional | Any valid date – warning given if a public holiday for the licensed area of the outage and date is different to planned start. Warning given if it is not between the planned start and end dates |
| Planned Start | Mandatory | <p>Any valid date – warning given if a public holiday for the licensed area of the outage. The date can be entered in either standard format or engineering day/week format (e.g. 15.2W04)</p> <p>A TO should not be able to update the start date of a planned (standard) outage. (1475)</p> <p>TO should be able to update the start time (not date) of a planned outage so long as the start date is at least a defined number of days in the future - where number of days is the System validation parameter "Threshold (days) for Planned Outage start date". (1844) (1988)</p> |
| Planned End | Mandatory | Same validation/formats as start date |
| PFW Date & Time | Optional | <p>Any valid date – warning given if a public holiday for the licensed area of the outage and date is different to planned start</p> <p>The date (PFW) should default to the start date of the outage. Similarly for the APA date/ time. Note if the outage start date is changed then the these dates should be automatically changed."</p> <p>Override the default and set PFW date different than Start date.</p> <p>In the case of over writing the default date, inform the user via POP UP box saying: "PFW or APA date was different to the original start date but is now the</p> |

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| Screen Field | Field Constraints <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | Validation / description |
|---------------------|--|---|
| | | same as the new start date. Please amend if necessary” Note: This rule applies to PFW and APA fields across the system. (1988) |
| Actual Start | Optional – Cannot be entered for a pending outage | Any valid date. The date can be entered in either standard format or engineering day/week format (e.g. 15.2W04) |
| Actual End | Optional – Cannot be entered for a pending outage | Same validation/formats as actual start |
| TO Lead planner | Optional | Any value from the list |
| Change Description | Optional | Free text |
| Change Code | Optional | Any value from the list |
| Requesting Party | Mandatory | Any value from the list |
| SO Request Comments | Optional | Free text |
| Operational Remarks | Optional | Free text |
| Winter ERTS Risk | Checkbox | |
| Cost Risk | Checkbox | |
| SO Impact | Mandatory | Any value from the list |
| Demand at Risk | Checkbox | |
| SO_cost change | Read only | |
| SO Cost reference | Read only | |
| TO | Non editable | |
| SO Lead Planner | Optional | Any value from the list |

If the user saves an outage where the Rating Adjustment value has been entered but more than one asset is covered by the outage then display an appropriate warning message. Also display a warning message if the Rating Adjustment is entered on a not in service outage.

If the outage is an addition or cancellation pending outage then if the system date is after the freeze date for any plan year affected by the outage (not just the value in the plan year field) but the user has not entered the change description and change code fields the a warning message should be displayed and the data rejected.

If the outage is an update pending outage and the freeze date has passed then the change description and change code fields are only required if any of the monitored fields differ from the planned outage fields.

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If the outage is a planned outage and the user has changed any of the monitored fields and the freeze date has passed then the change code and change description fields cannot be blank upon saving.

The monitored fields are the plan year, basic outage reference, start/end dates, ERTS day or night, C/D, service or rating adjustment or the status (but not a change to or from a status that is not 'Not Taken', 'TBA' or 'Cancelled').

4.39.5 Processing

Whenever the day or night ERTS values are changed then the values should be converted into a number of hours and stored in the erts_day_hours or erts_night_hours fields as appropriate.

If an APA time or a PFW time has been entered without a date then the date should be set (on the database field) to be the planned start date.

If the planned start and end dates have been entered without times then the times should be set to be 09:00 and end times to be 17:00 on the entered dates.

When a new planned or pending outage is saved and the user has not entered the Plan Number then the system will generate the next from the Transmission Owner's range and prefix it with either 'NG' or no prefix (if the transmission owner does not have a prefix). This is to ensure that E/W outages use a number from the MIMS range.

If the user has checked the Fault checkbox, on a new outage, then the system will determine the type of fault (to be stored in the fault_identifier field) from the outage's SO impact, asset type, work type and In Service flag as follows (Note this has still to be confirmed – will be finalised by Phase 2):

MIS and SGT's – From SO impact = A and Out of service

Compensation – Asset type compensation

DAR – From DCD code DAR and in service

Protection – from DCD code PROT and in service

Downrated Transformers – from DCD RAT and asset type transformer and in service

Downrated Lines – from DCD RAT and asset type OHL and in service

Downrated Cables – from DCD RAT and asset type CABLE and in service

ARS – to be discussed

If the user has selected a new basic outage reference from the list and pressed the 'Update' button then the basic outage related fields (see the table for the case of Add mode on an Addition outage in the initialisation section 4.30.3) should be re-populated from the new basic outage reference. Any parties that have been manually added to the (copied) request outage will be retained. Also if the old and new basic outages have the same external party then the external party comments will be retained.

If the planned start date is on or before the current date and the fault checkbox is not checked then the system will warn the user that the outage may be a fault.

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When the planned outage is saved and a change history is required to be saved (for either a new planned outage or a change to the monitored field in an existing planned outage) then a history record will be created with the following information:

| History table. field | Populated from |
|---------------------------------------|--|
| tra_outage_history.tra_outage_id | tra_outage.tra_outage_id |
| tra_outage_history.change_description | tra_outage.change_description |
| tra_outage_history.change_code_id | tra_outage.change_code_id |
| tra_outage_history.change_user | current user id |
| tra_outage_history.change_date | current system date |
| tra_outage_history.requesting_party | tra_outage.requesting_party |
| tra_outage_history.plan_year | tra_outage.plan_year |
| tra_outage_history.basic_outage_id | tra_outage.basic_outage_id |
| tra_outage_history.description | tra_outage.description (will be null if basic_outage_id is not null) |
| tra_outage_history.start_date | tra_outage.start date |
| tra_outage_history.end_date | tra_outage.end_date |
| tra_outage_history.erts_day | tra_outage.erts_day |
| tra_outage_history.erts_night | tra_outage.erts_night |
| tra_outage_history.continuous | tra_outage.continuous |
| tra_outage_history.service | tra_outage.service |
| tra_outage_history.availability | tra_outage.availability |
| tra_outage_history.status | tra_outage.status |

If a change history is being created for a standard outage and the freeze date, for a plan year affected by the outage, has passed then the system will demand that the change code and change description fields on the outage record are not blank.

The change history will not be performed for SO Confidential outages.

A change history will be recorded for the change in status on a Pending outage.

Whenever the outage record is saved the last_updated_date and last_updated_by fields will be refreshed to the current date/time and user.

If the status of a pending outage has been changed from 'Rejected Pending' then the rejection reason field should be blanked.

The 'Fault' button calls the Edit Fault Information screen (10306EditFaultInfo).

The 'History' button calls the View Change History screen (10314ViewPlannedHistory). When viewing/ updating a pending outage, history link should show history of its planned outage. (1678)

The 'Notes' button calls the Edit Planned Outage Comments screen (10308EditPlanComments).

The 'Link' button calls the Outage Links screen (10220OutageLinks)

The 'Free Codes/Parties' button calls the Edit Outage Parties and Free Codes screen (10219EditOutageParties)

The 'Risk Details' button calls the Edit Risk Information screen (10217EditRiskInfo) The risk details page will only be viewable if one or more of the risk checkboxes are checked and the user has 'View Risk', 'Edit Risk', 'View Cost Risk' or 'Edit Cost Risk' security permission.

The 'Copy' button causes a clone of the existing planned or pending outage to be made. This will cause the screen to clear the existing record and create a new one with all the same field values except the planned outage number will be blanked. This new request outage will be an 'Addition' type outage of status 'Planned'.

The Delete button will cause a pending outage to be physically deleted from the database. If there is a request outage associated with the pending outage then the status of the request outage will be set to a 'pending deleted' status (the exact status will be defined by a system parameter).

An SO user will be able to delete an 'SO Confidential' or a 'DNO Outage' planned outage. A TO user will be able to delete a 'TO Booking' planned outage. No other outage types can be deleted (user can cancel instead).

If a planned or pending outage being deleted, or a planned outage being cancelled, is linked to a child outage or a duplicate outage then the system will display an error message. It will not be possible to delete the outage until the link is removed.

For other link types a warning message will be displayed to the user and the links will be physically deleted when the outage is deleted/cancelled.

Selection of the 'Accept' button will call the 'Accept Pending into Plan' functionality.

Selection of the 'Reject' button will cause the status of the pending outage to be set to 'Rejected Pending'. The Rejection Reason field must be entered prior to pressing this button.

If the user presses the 'Create' button then the a new Request or Pending outage should be created. This will be a shortcut for going to either the 10205AddRequestOutage or the 10302AddPlannedOutage screens, entering the planned outage number and selecting the create new for update option.

4.39.6 Use Cases Covered

Create Outage (along with 10302AddPlannedOutage), Manage Outage, Modify Outage, 'Add/Modify Commission, Risk and Fault Information' (along with 10306EditFaultInfo and 10217EditRiskInfo), Log Changes Details, Change Outage Status, Delete Outage, Update Actuals.

4.40 10306EditFaultInfo

4.40.1 Security Operation Access

Accessible by 'View Fault Information' and 'Edit Fault Information' security permissions.

4.40.2 Risk Information Screen to Database Mapping

| Screen Field | Database table | Field |
|----------------------|--------------------------------|---|
| Outage No | tra_outage | tra_outage_id |
| Circuit/Description | Tra_outage and/or basic_outage | Basic_outage.description (if outage based upon basic outage) otherwise tra_outage.description In either case concatenate tra_outage.additional_description on the end. |
| Detail of Work | Tra_outage | Work_involved |
| Start date | Tra_outage | Start_date |
| End date | Tra_outage | End Date |
| Fault Identifier | tra_outage | fault_identifier |
| Responsible Engineer | tra_outage | fault_engineer |
| Fault Description | tra_outage | fault_description |
| Comment | tra_outage | fault_comment |
| O&T Comment | tra_outage | o_t_comment |
| | | |
| Plant Equip Group | tra_outage | plant_equipment_group |
| Reference | tra_outage | fads_number |

4.40.3 Initialisation

The screen should be populated with the fault details of the selected request outage according to the screen to database mapping.

If the user has 'Edit Fault Information' security permission then the screen will display the data in update mode. If the user only has 'View Fault Information' security permission then the screen will only be read only.

The drop lists are populated as follows:

| Screen Field | Population details |
|-------------------|---|
| Fault Identifier | Fixed values – 'MIS & SGTs', 'Compensation', 'DAR', 'Protection', 'Downrated Transformers', 'Downrated Lines', 'Downrated Cables' and 'ARS' |
| | |
| Plant Equip Group | PLANT_EQUIPMENT_GROUP.PLANT_EQUIPMENT_GROUP – all values |

4.40.4 Validation

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| Screen Field | Field Constraints <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | Validation / description |
|----------------------|--|--------------------------|
| Outage No | Display only | |
| Fault Identifier | Mandatory | Any value from the list |
| Responsible Engineer | Optional | Free text |
| Fault Description | Optional | Free text |
| Comment | Optional | Free text |
| O&T Comment | Optional | Free text |
| | | |
| Plant Equip Group | Optional | Any value from the list |
| Reference | Optional | Free text |

4.40.5 Processing

When the data is saved the last_updated_date and last_updated_by fields are updated to hold the current date/time and user.

4.40.6 Use Cases Covered

'Add/Modify Commission, Risk and Fault Information' (along with 10217EditRiskInfo)

4.41 10308EditPlanComments

4.41.1 Security Operation Access

Each individual comments field has its own View and Edit security operations. Hence this screen is accessed by 'View Initial Placement Notes', 'View Optimisation Notes', 'View Delivery Notes', 'View Control Room Notes', 'Edit Initial Placement Notes', 'Edit Optimisation Notes', 'Edit Delivery Notes' and 'Edit Control Room Notes' security operations.

4.41.2 Plan Comments Screen to Database Mapping

| Screen Field | Database table | Field |
|--------------------------|----------------|--|
| Outage No | Tra)outage | Tra_outage_id |
| Circuit/Description | Tra_outage | Basic_outage.description (if no basic outage linked) otherwise Tra_outage.description In either case concatenate with tra_outage.additional_description |
| Start date | Tra_outage | Start_date |
| End date | Tra_outage | End date |
| Date when placed in plan | Tra_outage | Placed_in_plan |

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| Screen Field | Database table | Field |
|--------------------------|----------------|--|
| Outage No | Tra)outage | Tra_outage_id |
| Circuit/Description | Tra_outage | Basic_outage.description (if no basic outage linked) otherwise Tra_outage.description In either case concatenate with tra_outage.additional_description |
| Start date | Tra_outage | Start_date |
| End date | Tra_outage | End_date |
| Date when placed in plan | Tra_outage | Placed_in_plan |
| Initial Placement Notes | tra_outage | gbso_year_comm. |
| Optimisation Notes | tra_outage | gbso_optim_comm.. |
| Delivery Notes | tra_outage | gbso_deliv_comm.. |
| Control Room Comments | tra_outage | control_comments |
| | | |

4.41.3 Initialisation

The screen is populated with the comments fields from the planned outage according to the screen to database mapping. Next to each field is the id of the user who last updated the field along with the date and time that they made the change.

Each updateable field is displayed in a formattable edit box which allows underlining of text etc.

If the outage start date has been changed since all of the initial placement, optimisation or delivery notes were last updated then a warning message will be displayed by the last updated one.

If the outage was placed in the plan on or before the handover date then the initial placement notes should only be updateable if the system date is on or before the handover date. Validation

All fields are optional free text fields

4.41.4 Processing

When the data is saved the user id and date/time is saved for each field being amended.

4.41.5 Use Cases Covered

Record Notes, View Notes

4.42 10314ViewPlannedHistory

4.42.1 Security Operation Access

Accessible by 'View Planned Outage' security permission.

4.42.2 Risk Information Screen to Database Mapping

| Screen Field | Database table | Field |
|------------------------|------------------------------------|---|
| Outage No | tra_outage_history | tra_outage_id |
| Plan Year | tra_outage_history | plan_year |
| Basic Outage | tra_outage_history | basic_outage_id |
| Circuit/Description | tra_outage_history or basic_outage | if the basic_outage_id is null then tra_outage_history.description otherwise the basic_outage.description for the specified basic_outage_id |
| Start Date | tra_outage_history | start_date |
| End Date | tra_outage_history | end_date |
| ERTS Day | tra_outage_history | erts_day |
| ERTS Night | tra_outage_history | erts_night |
| C/D | tra_outage_history | continuous (1 = checked) |
| Service | tra_outage_history | service (1 = 'In', 0 = 'Out') |
| Rating Adjustment | tra_outage_history | availability |
| Status | tra_outage_history | status |
| Change Code | tra_outage_history | change_code_id |
| Changed By | tra_outage_history | change_user |
| Change Description | tra_outage_history | change_description |
| Requeusting Party Code | Tra_outage_history | Requesting_party |
| Change Date | tra_outage_history | change_date |

4.42.3 Initialisation

The screen should be populated with the fault details of the selected request outage according to the screen to database mapping.

All of the history records for the planned outage are displayed in descending change_date order.

4.42.4 Validation

None

4.42.5 Processing

The Outage No field is a link to the 10305EditPlannedOutage screen which will show the fields from the selected history records and the other planned outage fields from the current record

4.42.6 Use Cases Covered

View Change History

4.43 1010404AddEditAsset

4.43.1 Description of Changes

The new field 'Monitoring Category' will be added to the screen. The optional field will have a drop list containing the values: null, 'Compensation', 'Connection' and 'MIS'. The value can be amended at any time.

4.44 10305EditPlannedOutage

4.44.1 Description of Changes

Add to this screen a 'Commissioning Data Required' checkbox which will map to the commissioning field on the tra_outage table (values 1 for checked, 0 for unchecked).

4.45 10220OutageLinks

4.45.1 Description of Changes

Currently this screen contains sections for the linking of transmission outages to other transmission outages and to generator outages. This screen is to have a new section. This will control the linking of transmission outages to commissioning records. The user will be able to search for commissioning records to link and will be able to delete existing links.

The link between transmission outages and commissioning records will be a many to many relationship. The link will be between the commissioning record and the transmission outage number.

4.45.2 Security Operation Access

The screen is accessible by users with 'View Request Outages' and 'Edit Request Outages' security operations.

The Generator Outage links section is accessible by users with 'View Generator Links' or 'Edit Generator Links' security operations.

The Linked Commissioning Records section is accessible by users with 'View Commissioning' or 'Edit Commissioning' security operations.

4.45.3 Linked Commissioning Records Screen to Database Mapping – Linked Commissioning Records section only

| Screen Field | Database table | Field |
|------------------|--|------------------|
| Record Id | outage_commissioning_link (where tra_outage_id = the id of the outage being displayed) | commissioning_id |
| Effective Date | commissioning (where commissioning_id = outage_commissioning_link.commissioning_id) | effective_date |
| Nature of Change | commissioning (where commissioning_id = outage_commissioning_link.commissioning_id) | nature_of_change |

4.45.4 Initialisation

The Linked Commissioning Records section should be populated with the commissioning record links for the current outage.

If the user does not have ‘View Commissioning’ or ‘Edit Commissioning’ security permission then the commissioning records link section of the screen will not be displayed.

4.45.5 Validation

| Screen Field | Field Constraints | Validation / description |
|---|--|--|
| | <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | |
| Record ID of the commissioning record being added | Mandatory (if adding a commissioning record link) | Must exist on commissioning.commissioning_id |

4.45.6 Processing

The screen allows links to be added and deleted. Links cannot be modified.

Selecting the ‘Find’ button for commissioning records will call 10501QueryCommissioning so that the user can choose a commissioning record and bring the ID number back to this screen.

When a commissioning record link is added a new record is written to the outage_commissioning_link table. This table will hold the linked outage number and the linked commissioning record id.

A commissioning record can only be linked to an outage with the same tra_owner value.

If the commissioning record is of type 'System Change' and the effective date is not between the start and end dates of the outage then an error message should be displayed. If the commissioning record is of type 'Commissioning' and the effective date is more than 2 days before the end date of the outage or is after the outage end date then a warning message should be given.

The hyperlinks on the linked commissioning record id fields takes the user to the 10503AddEditCommissioning screen in to view or edit the details of the commissioning record.

4.45.7 Use Cases Covered

'10306 Add/Modify Commission, Risk and Fault Information'

4.46 10501QueryCommissioning

4.46.1 Security Operation Access

Accessible by View Commissioning and Edit Commissioning security operations.

4.46.2 Initialisation

The drop lists are populated as follows:

| Screen Field | Population details |
|----------------------|---|
| Temporary/Permanent | Fixed values: null, 'Temporary', 'Permanent'. |
| New/Replacement | Fixed values: null, 'New', 'Replacement'. |
| Record Type | Fixed values: null, 'System Change', 'Commissioning'. |
| Status | Fixed values: null, 'Active', 'Part Complete', 'Complete', 'Cancelled' |
| Responsible Engineer | TOGA_USER.USER_NAME where their PROFILE.ROLE_ID matches the SO_LEAD_PLANNER_ROLE system parameter. |
| Substations | Fixed values: 'Substation', 'Group' |
| Free Codes | FREE_CODE.FREE_CODE_ID – all records. |
| Parties | If user is an SO user then include all records from TOPAM_SO_PARTY table and TOPAM_TO_PARTY table. If the user is a TO user then show all records from the TOPAM_SO_PARTY table but only show records from TOPAM_TO_PARTY where the TRA_OWNER matches the users TO value. |
| Order By | Fixed values: 'Record Id' and 'Effective Date'. |

4.46.3 Processing

All fields are optional entry.

The list of substations can be populated by the user choosing 'Substation', entering a substation code in the field and then pressing the 'Add' button to add it to the list. Alternatively the user can press the 'Find' button, which will take the

user to the substation query screen (1010301QuerySubStns) and allow them to find a substation, which will then be brought back to this screen for inclusion in the substation list.

As a shortcut to adding substations the user can enter a substation group by choosing 'Group', entering a substation group code in the field and pressing the Add button to add the group to the list. Alternatively the user can press the 'Find' button, which will take the user to the substation group list screen (1010305ListSubStnGroups) and allow them to find a substation group, which will then be brought back to this screen for inclusion in the list.

All of the substations selected for the query will be displayed as hyperlinks. The user will be able to remove a substation from the list by clicking on the hyperlink of the substation.

The 'List' button will call the 10502ListCommissioning report as an embedded report. The 'Print' button will call the 10502ListCommissioning report as a pdf report in a separate browser.

4.46.4 Use Cases Covered

'10501List Commissioning Information Records' (along with 10502ListCommissioning)

4.47 10502ListCommissioning

4.47.1 Security Operation Access

Accessible by View Commissioning and Edit Commissioning security operations.

4.47.2 Initialisation

The list of commissioning records is displayed in either ascending record id (commissioning_id) or effective date (effective_date) order.

If the user is a TO user then only records with the user's tra_owner_id will be displayed.

The fields displayed are the:

- commissioning_id (Record Id),
- effective_date (Effective Date),
- status (Status),
- nature_of_change (Nature of Change),
- record_type (Record Type),
- temp_perm (Temp/Perm),

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- new_rep (New/Replace),
- op_diag_needed / op_diag_got (Operational Diagram Required/Received),
- comm_prog_needed / comm_prog_got (Commissioning Program Required / Received),
- hvsccl_needed / hvsccl_got (HVSCC Required/Received),
- rat_sched_needed / rat_sched_got (Rating Schedule Required / Received),
- prot_sched_needed / prot_sched_got (Protection Schedule Required / Received),
- iems_needed / 'N/A' (IEMS ChangeRequired / Received),
- ella_needed / ella_got (ELLA Change Required / Received),
- site_resp_needed / site_resp_got (Site Responsibility Schedule Required/Received),
- equip_acc_needed / 'N/A' (Equipment Acceptance Certificate Required/Received),
- other_req_needed / other_req_got (Other Requirements Required/Received)

from the commissioning table. The records displayed depend upon the query parameters entered in 10501QueryCommissioning as follows:

| Screen Field | Purpose |
|--|--|
| Record Id | Commissioning.commissioning_id must match this parameter (if entered) |
| Effective Date Between | Commissioning.effective_date must be >= effective date from (if entered) and <= effective date to (if entered) |
| Temporary/Permanent | Commissioning.temp_perm must equal this parameter (if entered) |
| New/Replacement | Commissioning.new_rep must equal this parameter (if entered) |
| Record Type | commissioning.record_type must equal this parameter (if entered) |
| Status | commissioning.status must equal this parameter (if entered) |
| Responsible Engineer | commissioning.so_lead_planner must equal this parameter (if entered) |
| Show all records not associated with an outage | If this checkbox is checked then only display commissioning records where there are no associated records in the outage_commissioning_link table. |
| Show records which have been changed since | If a parameter date is entered then only display commissioning records where a commissioning_history record exists with a change_date later than the entered parameter |
| Requirements | The <xxxxx>_got fields on the commissioning record must equal 1 for each of the checked checkboxes. |
| Only show requirements with an overdue requirement | If this checkbox is checked then: if the user has checked any requirements then only commissioning records with one of the checked requirements overdue should be displayed if the user has not checked any requirements then commissioning records with any requirements overdue should be displayed. See section 4.48.4 for a definition of an overdue requirement. |

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| | |
|---------------|--|
| Substations | Commissioning record with one of the selected substations (via <code>commissioning_substation_link</code> (or a substation from one of the chosen groups) should be displayed |
| Outage Number | Commissioning records which have a <code>outage_commissioning_link</code> record which have an outage number starting with the characters in the parameter (if any entered) should be displayed. |
| Free Codes | Commissioning records should be displayed which are linked to an outage (via <code>outage_commissioning_link</code>) that has at least one (in the case of OR) or has all (in the case of AND) of the chosen free codes |
| Parties | Commissioning records should be displayed which are linked to an outage (via <code>outage_commissioning_link</code>) that has at least one (in the case of OR) or has all (in the case of AND) of the chosen parties |

If the commissioning record is of type 'System Change' and the effective date is not between the start and end dates of all the linked outages then the effective date will be displayed in red with an exclamation mark next to it. Similarly if the commissioning record is of type 'Commissioning' and the effective date is more than 2 days away from the end date of any linked outages then the effective date will be displayed in red with an exclamation mark next to it.

If any of the required items are overdue then their required field (the 'Y' character) should be displayed in red. See section 4.48.4 for a definition of an overdue requirement.

4.47.3 Validation

N/A

4.47.4 Processing

If the screen has been called from the 10220OutageLinks screen as part of a commissioning record asset search then the selection of the 'Record Id' link will cause the `commissioning_id` to be returned to the calling screen.

If the screen has not be called as part of an asset search then if the user has Edit Commissioning permission then selection of the 'Record Id' link will call 10503AddEditCommissioning in Edit mode otherwise, if the user only has View Commissioning permission then selection of the 'Record Id' link will call 10503AddEditCommissioning in read only mode.

4.47.5 Use Cases Covered

'10501List Commissioning Information Records' (along with 10501QueryCommissioning)

4.48 10503AddEditCommissioning

4.48.1 Security Operation Access

Accessible by View Commissioning (in read only mode) and Edit Commissioning security operation.

4.48.2 Commissioning Screen to Database Mapping

| Screen field | Database table | Field |
|---------------------------------------|---|---------------------------|
| Record ID | commissioning | commissioning_id |
| Effective Date | commissioning | effective_date |
| <Effective Date update details> | most recent commissioning_history for the commissioning_id where the effective_date is different to the previous record | user_name and change_date |
| Status | commissioning | status |
| <Status update details> | most recent commissioning_history for the commissioning_id where the status is different to the previous record | user_name and change_date |
| Record Type | commissioning | record_type |
| Nature of Change | commissioning | nature_of_change |
| Temporary/Permanent | commissioning | temp_perm |
| Activity | commissioning | new_rep |
| Responsible SO Planner | commissioning | so_lead_planner |
| Licensed Area | Commissioning | tra_owner |
| Operational Diagram (Required) | commissioning | op_diag_needed |
| Operational Diagram (Received) | commissioning | op_diag_got |
| Operational Diagram (Received Date) | commissioning | op_diag_got_date |
| Operational Diagram (Received By) | commissioning | op_diag_got_user |
| Operational Diagram (Comments) | commissioning | op_diag_comments |
| Commissioning Program (Required) | commissioning | comm_prog_needed |
| Commissioning Program (Received) | commissioning | comm_prog_got |
| Commissioning Program (Received Date) | commissioning | comm_prog_got_date |
| Commissioning Program (Received By) | commissioning | comm_prog_got_user |
| Commissioning Program (Comments) | commissioning | comm_prog_comments |
| HVSCC (Required) | commissioning | hvsccl_needed |
| HVSCC (Received) | commissioning | hvsccl_got |

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| | | |
|--|---------------|---------------------|
| HVSCC (Received Date) | commissioning | hvsccl_got_date |
| HVSCC (Received By) | commissioning | hvsccl_got_user |
| HVSCC (Comments) | commissioning | hvsccl_comments |
| Rating Schedule (Required) | commissioning | rat_sched_needed |
| Rating Schedule (Received) | commissioning | rat_sched_got |
| Rating Schedule (Received Date) | commissioning | rat_sched_got_date |
| Rating Schedule (Received By) | commissioning | rat_sched_got_user |
| Rating Schedule (Comments) | commissioning | rat_sched_comments |
| Protection Schedule (Required) | commissioning | prot_sched_needed |
| Protection Schedule (Received) | commissioning | prot_sched_got |
| Protection Schedule (Received Date) | commissioning | prot_sched_got_date |
| Protection Schedule (Received By) | commissioning | prot_sched_got_user |
| Protection Schedule (Comments) | commissioning | prot_sched_comments |
| ELLA Change (Required) | commissioning | ella_needed |
| ELLA Change (Received) | commissioning | ella_got |
| ELLA Change (Received Date) | commissioning | ella_got_date |
| ELLA Change (Received By) | commissioning | ella_got_user |
| ELLA Change (Comments) | commissioning | ella_comments |
| Site Responsibility Schedule (Required) | commissioning | site_resp_needed |
| Site Responsibility Schedule (Received) | commissioning | site_resp_got |
| Site Responsibility Schedule (Received Date) | commissioning | site_resp_got_date |
| Site Responsibility Schedule (Received By) | commissioning | site_resp_got_user |
| Site Responsibility Schedule (Comments) | commissioning | site_resp_comments |
| Other Requirements (Required) | commissioning | other_req_needed |
| Other Requirements (Received) | commissioning | other_req_got |
| Other Requirements (Received Date) | commissioning | other_req_got_date |
| Other Requirements (Received By) | commissioning | other_req_got_user |
| Other Requirements (Comments) | commissioning | other_req_comments |
| IEMS Change (Required) | commissioning | iems_needed |
| IEMS Change (Comments) | commissioning | iems_comments |
| Equipment Acceptance Certificate (Required) | commissioning | equip_acc_req |
| Equipment Acceptance Certificate (Comments) | commissioning | equip_acc_comments |

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| | | |
|---------------------|---|-------------------------------|
| Substations | substation (linked via commissioning_substation_link where commissioning_id = the commissioning record being displayed) | substation_id and description |
| Assets | asset (linked via commissioning_asset_link where commissioning_id = the commissioning record being displayed) | asset_id and description |
| Outage Number | outage_commissioning_link (where commissioning_id = the commissioning record being displayed) | tra_outage_id |
| Start | tra_outage linked via outage_commissioning_link (where commissioning_id = the commissioning record being displayed) and pending = 0 (or pending = 1 if a record with pending = 0 does not exist for the tra_outage_id) | start_date |
| End | tra_outage (linked as above) | end_date |
| Circuit/Description | if tra_outage.basic_outage_id is not null then display basic_outage.description (linked by the basic_outage_id) otherwise display the tra_outage.description. In either case concatenate tra_outage.additional_description to the end of the description. | |

4.48.3 Initialisation

If called from the menu in Add mode then present user with blank asset record otherwise populate the screen with the selected commissioning record details.

If the user has Edit Commissioning security permission then display the 'Find' and 'Save' buttons.

If the user has Edit Commissioning security permission and the screen has not been called in Add mode then display the 'Delete' button.

The drop lists are populated as follows:

| Screen Field | Population details |
|----------------------|--|
| Status | Fixed values: null, 'Active', 'Part Complete', 'Complete', 'Cancelled' |
| Activity | Fixed values: New, Replace, Remove & Update. |
| Temporary/Permanent | Fixed values: null, 'Temporary', 'Permanent' |
| Responsible Engineer | TOGA_USER.USER_NAME where their PROFILE.ROLE_ID matches the SO_LEAD_PLANNER_ROLE system parameter. |
| New/Replacement | Fixed values: null, 'New', 'Replacement' |
| Licensed Area | TRA_OWNER.TRA_OWNER_ID – display all values to an |

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| | |
|--|---|
| | SO user but only a TO's own value to a TO user. |
|--|---|

For each required requirement (all those with the required checkbox checked) calculate and display the required date (calculation defined in the following section). If the requirement is overdue then display the required date in red text.

4.48.4 Calculate information required dates

The required date for a requirement is calculated as a number of weeks before the commissioning effective date. The number of weeks to be used for each of the requirements is defined in a system parameter. There will be 8 of these parameters, one for each of the requirements. There will not be a system parameter for the 'Other Requirements' requirement because, by its very nature, it is not a defined number of weeks.

A requirement will be considered to be overdue when its required date is before the system date and the respective Received checkbox has not been checked.

4.48.5 Validation

| Screen Field | Field Constraints | Validation / description |
|----------------------|--|---|
| | <ul style="list-style-type: none"> • Mandatory/Optional • Unique • Read-only/Editable | |
| Record Id | Read Only | System generated upon adding the record |
| Effective Date | Mandatory | |
| Status | Mandatory | Any value from the list |
| Activity | Mandatory | Any value from the list |
| Nature of Change | Mandatory | Free text field. |
| Temporary/Permanent | Mandatory | Any value from the list |
| New/Replacement | Mandatory | Any value from the list |
| Responsible Engineer | Optional | Any value from the list |
| Licensed Area | Mandatory | Any value from the list |
| Required fields | Optional | Checkboxes |
| Received fields | Optional | Checkboxes |
| Received Date fields | Optional | Any date |
| Comments fields | Optional | Free text fields |
| Add Substation | Optional | Must be a valid substation code. Use the Find button to call the 1010301QuerySubStns screen. |
| Add Asset | Optional | Must be a valid asset id. Use the Find button to call the 1010401QueryAssets screen. |
| Add Outage Link | Optional | Must be the number of an existing planned outage with the same tra_owner as the commissioning record. |

4.48.6 Processing

The outage numbers of any linked outages should be displayed as hyperlinks. Pressing these links will call the display planned outage screen (10305EditPlannedOutage) in a separate browser window and display the chosen planned outage.

When the record is initially saved to the database a unique record id is generated. This will be the 'COM' prefix followed by a system generated unique number.

Whenever the record is saved and the effective date or status fields have been updated (of the record is new) then a commissioning_history record should be created holding the commissioning_id, status, effective_date, user_name (of the current_user) and the change_date (system date).

Whenever the commissioning record is saved and the user has checked a received checkbox then the corresponding 'Received By' field should be populated with the user_name of the current user.

If the user presses the substation 'Find' button then the 1010301QuerySubStns screen should be displayed. This will allow the user to choose a substation and then bring the required substation id into the Add Substation field. Alternatively the user can simply enter a substation id. Pressing the Add button will add the substation to the commissioning record (by creating a commissioning_substation_link record. Pressing the delete icon next to a linked substation will remove the substation (by deleting the commissioning_substation_link record.

Assets can be added and removed in the same way as substations. The link table in this case is commissioning_asset_link.

Links to planned outages can be added and removed in the same way as assets and substations (but there will be no facility to search for the outage). The start/end dates of the outage will be validated against the commissioning record effective date. If the commissioning record is of type 'System Change' then an error will be given if the effective date is not between the start and end dates of the outage and the link record will not be added. If the commissioning record is of type 'Commissioning' then a warning message will be given if the effective date is not on the outage end date or within 2 days prior to it. If the outage number entered is not the number of an outage within the same licensed area then the link cannot be added and an error message will be given.

If the user presses the Delete button then the commissioning record should be deleted along with the associated outage_commissioning_link, commissioning_substation_link and commissioning_asset_link records.

4.48.7 Use Cases Covered

'10500 Add Commissioning Information Record', '10502 View Commissioning Information', '10503 Modify Commissioning Information' and '10505 Delete Commissioning Information'.

4.49 View Published Transmission Outage Plan

4.49.1 Description

This new screen will allow users to choose a published Transmission Outage Plan. The appropriate pre-generated file will be presented to the user.

4.49.2 Security Operation Access

The screen is accessible by users with 'View Published Transmission Outage Plan Report' security permission.

4.49.3 Initialisation

The user will be presented with a drop down list of the times when the report was run. These values will be the published_date values from the published_outage_plans table with the most recent at the top of the list.

4.49.4 Processing

The user must choose one of the dates from the list and press the 'Download' button.

The system will present the user with a copy of the associated pdf file.

4.50 TOPAM Specialist List Filters

All four of these list filters are included as part of use case 1.3.01 List Outages

4.50.1 TOPAM Risk Outage List Filter

4.50.1.1 Brief Description

This screen allows users to query risk outages and display the records in an updateable list.

4.50.1.2 Basic Flow

4.50.1.2.1 The system displays the screen 10330QueryRiskOutages

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- 4.50.1.2.2 If the user has View Risk Information or Edit Risk Information security permissions then the system displays the 'Winter ERTS Risk' and 'Demand at Risk' options in the Risk Types to Display parameter box.
- 4.50.1.2.3 If the user has View Cost Risk or Edit Cost Risk security permissions then the system displays the 'Cost Risk' option in the Risk Types to Display parameter box.
- 4.50.1.2.4 The user must choose one or more risk types to display.
- 4.50.1.2.5 The user must choose one or more outage types to display – planned or pending.
- 4.50.1.2.6 The user can enter the starting characters of the Outage number.
- 4.50.1.2.7 The user may enter a valid from and to date for the search.
- 4.50.1.2.8 The user can choose to only show outages starting or ending within the date range or all those that intersect with the date range.
- 4.50.1.2.9 The user may pick a number of parties in order to narrow the outage selection.
- 4.50.1.2.10 The user can choose to search for risk outages referencing a particular substation by choosing the 'Substation' option, entering a valid substation code and pressing the Add button. The substation will be added to the list of substations on the screen. If the user does not know the substation code they can use the 'Find' button to allow them to search for the substation. This will bring back a substation code and automatically add it to the list.
- 4.50.1.2.11 Alternatively the user may enter a substation group. This is achieved by selecting the 'Group' option, entering a substation group code and pressing the Add button. The substation group code is added to the substation list. If the user does not know the substation group code they can use the Find button, which displays the substation group list screen for where the user may pick a substation group and the system will add it to the substation list.
- 4.50.1.2.12 If the user wishes to remove a selected substation from the list then they should click on the hyperlink for the substation. The system will remove the substation from the query list.
- 4.50.1.2.13 The user must choose the ordering of the list. The ordering will default to Start Date order but can be changed to Outage No order.
- 4.50.1.2.14 The user presses the List button
- 4.50.1.2.15 The system displays the screen 10331UpdateableRiskList.

- 4.50.1.2.16 The system displays a list of planned/pending outages in the specified sort order. The outages listed will match the query parameters entered in 10330QueryRiskOutages.
- 4.50.1.2.17 The system will display a number of read only fields for the outages. In addition the system will display a number of updateable fields for the risk information.
- 4.50.1.2.18 If the outage is identified as a Winter ERTS Risk and user has chosen to view Winter ERTS Risk outages, then the system will display the Risk Details, Winter ERTS Risk comment and Outage Justification fields. If the outage is identified as a Demand at Risk outage and user has chosen to view Demand at Risk outages then the system will display the Risk Details, TPSO/Switching issues, Outage Justification, Mitigating Actions, Decision and In-week Decision fields. If the outage is identified as a Cost Risk and user has chosen to view Cost risk outages then the system will display the Cost Risk fields. It is possible that an outage can be defined as more than one type of risk in which case the combined set of relevant risk fields will be displayed. Note – the fields displayed will be subjected to the user’s security profile. If user has not chosen to view a particular type of risk outages, then displayed outage will not show the details of that risk, but will show only its checkbox to indicate the presence of that risk.
- 4.50.1.2.19 If the start date or end date or basic reference on the outage have been changed since the risk details were last updated then a warning message will be displayed against the outage.
- 4.50.1.2.20 The user can update any of the updatable fields on any of the displayed records and press the Save button. The system will save the modifications to the database.
- 4.50.1.2.21 The use case ends.

4.50.1.3 Special Requirements (Secure Access Privilege)

Accessible by View Risk Information, Edit Risk Information, View Cost Risk and Edit Cost Risk security operations.

4.50.1.4 Pre-conditions

Some risk outages must exist within TOGA

4.50.1.5 Post-conditions

The risk outages are updated as appropriate

4.50.1.6 Extension Points

None

4.50.2 TOPAM Control Room List Filter**4.50.2.1 Brief Description**

This screen allows control room users to query outages that are starting and/or ending in a defined period. The records will be displayed in a list allowing the users to enter the actual start/end dates and appropriate comments.

4.50.2.2 Basic Flow

- 4.50.2.2.1 The system displays the screen 10337QueryControlRoomOutages
- 4.50.2.2.2 The user can enter the starting characters of the Outage number.
- 4.50.2.2.3 The user may pick a number of parties in order to narrow the outage selection. The system will have already selected the user's own party. The user can add more if required and/or deselect the automatically selected party.
- 4.50.2.2.4 The user may enter a licensed area in order to restrict the displayed outages.
- 4.50.2.2.5 The user may enter a valid from and to date for the search. These fields will both default to the current date.
- 4.50.2.2.6 The user can choose to show outages starting within the date range, outages ending within the date range, all those that intersect with the date range or any combination of these options.
- 4.50.2.2.7 The user may choose to restrict the query to outages having a PFW time entered or an ISOS time entered. If both options are selected then only outages with both times entered will be displayed.
- 4.50.2.2.8 The user may specify whether to only view in service outages, out of service outages or both types.
- 4.50.2.2.9 The user must choose the SO impact values of the outages to be displayed. The A, B and C options will be defaulted by the system.
- 4.50.2.2.10 The user must choose the status of the outages to be displayed. The system will default this selection to Planned and Started outages only.
- 4.50.2.2.11 The user must specify which outage types to display. The system will default this selection to Standard and Comment outages only.
- 4.50.2.2.12 The user presses the List button

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- 4.50.2.2.13 The system displays the screen 10338UpdateableControlRoomList.
- 4.50.2.2.14 The system displays a list of planned outages matching the query parameters entered in 10337QueryControlRoomOutages.
- 4.50.2.2.15 The outages will be displayed with those starting in the period first, followed by those ending in the period, followed by those spanning the period. Within the above groupings the data will be displayed in ascending start date and then end date order.
- 4.50.2.2.16 The system will display a number of read only fields for the outages. In addition the system will display the status, actual start date/time and actual end date/time as updateable fields.
- 4.50.2.2.17 If the user has view control room comments security permission then the control room comments field will be displayed. If the user has edit control room comments security permission then the control room comments field will be displayed as an updateable field.
- 4.50.2.2.18 The list will also contain links to the Edit Outage, Risk Information, Fault Information, Plan Comments and Parties/Free Codes screens. These screens will be displayed in a separate popup window in view only mode.
- 4.50.2.2.19 The system also provides a popup window containing the Work Involved.
- 4.50.2.2.20 If user is a Commissioning user, then along with the Outage records, display the commissioning records which:
- ✓ intersects the given date range
 - ✓ linked to a planned outage having the outage number OR licence Area OR parties as mentioned on the filter query screen
- The Commissioning records will be displayed below the outages records and following fields will be displayed for each Commissioning record: Record Id (link to record open in separate window), Effective Date, Status, Nature of Change', *Record type*, *HVSCC (required)* , *IEMS (required)*
- 4.50.2.2.21 The user can update any of the updatable fields on any of the displayed records and press the Save button.
- 4.50.2.2.22 The system will validate the entries. If the actual start date has been entered and this differs from the planned start date, or the actual end date has been entered and this differs from the planned end date then the user must enter a change code, requesting party and

change description. This validation only applies to differing dates. The same dates with differing times will not require entry of the change code, requesting party or change description.

- 4.50.2.2.23 If the actual start date has been entered then the outage status will be automatically changed to Started. If the actual end date has been entered then the outage status will be automatically changed to Complete. If the user has entered a start or end date and also changed the status to 'not taken' or 'TBA' then an error message will be given.
- 4.50.2.2.24 A history record will be created showing the change in status and/or dates.
- 4.50.2.2.25 If the data passed validation then the system saves the modifications to the database.
- 4.50.2.2.26 The use case ends.

4.50.2.3 Special Requirements (Secure Access Privilege)

Accessible by View Planned Outages and Edit Planned Outages security operations. If the user has View Control Room Notes or Edit Control Room Notes then the screens will contain additional functionality.

Change code for control room outage list should always show change codes as blank (1834)

If an actual date different to planned is entered system should correctly ask for change code as well as change status of outage to 'Started' (1953)

4.50.2.4 Pre-conditions

Some planned outages must exist within TOGA

4.50.2.5 Post-conditions

The outages are updated as appropriate

4.50.2.6 Extension Points

None

4.50.3 TOPAM Fault Outage List Filter

4.50.3.1 Brief Description

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This screen allows users to query fault outages and display the records in an updateable list.

4.50.3.2 Basic Flow

- 4.50.3.2.1 The system displays the screen 10335QueryFaultOutages
- 4.50.3.2.2 The user must choose one or more fault types to display.
- 4.50.3.2.3 The user must choose one or more fault identifiers to display.
- 4.50.3.2.4 The user can enter the starting characters of the Outage number.
- 4.50.3.2.5 The user may choose a licensed area for the search
- 4.50.3.2.6 The user may enter a valid from and to date for the search.
- 4.50.3.2.7 The user can choose to only show outages starting or ending within the date range or all those that intersect with the date range.
- 4.50.3.2.8 The user may pick a number of parties in order to narrow the outage selection.
- 4.50.3.2.9 The user can choose to search for risk outages referencing a particular substation by choosing the 'Substation' option, entering a valid substation code and pressing the Add button. The substation will be added to the list of substations on the screen. If the user does not know the substation code they can use the 'Find' button to allow them to search for the substation. This will bring back a substation code and automatically add it to the list.
- 4.50.3.2.10 Alternatively the user may enter a substation group. This is achieved by selecting the 'Group' option, entering a substation group code and pressing the Add button. The substation group code is added to the substation list. If the user does not know the substation group code they can use the Find button, which displays the substation group list screen for where the user may pick a substation group and the system will add it to the substation list.
- 4.50.3.2.11 If the user wishes to remove a selected substation from the list then they should click on the hyperlink for the substation. The system will remove the substation from the query list.
- 4.50.3.2.12 The user must choose the ordering of the list. The ordering will default to Start Date order but can be changed to Outage No order.
- 4.50.3.2.13 The user presses the List button
- 4.50.3.2.14 The system displays the screen 10336UpdateableFaultList.

- 4.50.3.2.15 The system displays a list of planned outages in the specified sort order. The outages listed will match the query parameters entered in 10335QueryFaultOutages.
- 4.50.3.2.16 The system will display a number of read only fields for the outages. In addition the system will display a number of updateable fields for the fault information.
- 4.50.3.2.17 The user can update any of the updatable fields on any of the displayed records and press the Save button. The system will save the modifications to the database.
- 4.50.3.2.18 The use case ends.

4.50.3.3 Special Requirements (Secure Access Privilege)

Accessible by 'View Fault Information' and 'Edit Fault Information' security permissions.

4.50.3.4 Pre-conditions

Some fault outages must exist within TOGA

4.50.3.5 Post-conditions

The fault outages are updated as appropriate

4.50.3.6 Extension Points

None

4.50.4 TOPAM Notes List Filter

4.50.4.1 Brief Description

This screen allows TOGA users to query outages in order to assess and update the notes and comments on the outages. The outages will be displayed in a list allowing the users to enter the view and update the comments as required.

4.50.4.2 Basic Flow

- 4.50.4.2.1 The system displays the screen 10332QueryNotesOutages
- 4.50.4.2.2 The user can enter the starting characters of the Outage number.
- 4.50.4.2.3 The user may pick a number of parties in order to narrow the outage selection. The system will have already selected the user's own party. The user can add more if required and/or deselect the automatically selected party.

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- 4.50.4.2.4 The user may enter a valid from and to date for the search.
- 4.50.4.2.5 The user can choose to show outages starting within the date range, outages ending in the date range and/or outages that intersect with the date range.
- 4.50.4.2.6 An SO user may select a licensed area, which will restrict the query to only outages from this licensed area. A TO user will not have this option and will always be restricted to outages within their licensed area.
- 4.50.4.2.7 The user may choose whether to view in service outages, out of service outages or both.
- 4.50.4.2.8 The user must choose the SO impact values of the outages to be displayed. The A and B options will be defaulted by the system.
- 4.50.4.2.9 The user must choose which types of outages to display.
- 4.50.4.2.10 The system will present the user with a list of the comments that they can select for display/update. The user will always have the SO Comments, TO Comments and the Operational Remarks options and in addition will have as many of the Notes options as their security permission allows them to edit or view.
- 4.50.4.2.11 The user may choose the comments/notes to be displayed.
- 4.50.4.2.12 The user may choose to display commissioning information along with the outages.
- 4.50.4.2.13 The user presses the List button
- 4.50.4.2.14 The system displays the screen 10333UpdateableNotesList.
- 4.50.4.2.15 The system displays a list of planned outages matching the query parameters entered in 10332QueryNotesOutages.
- 4.50.4.2.16 The outages will be displayed with those starting in the period first, followed by those ending in the period, followed by those spanning the period. Within the above groupings the data will be displayed in ascending start date and then end date order.
- 4.50.4.2.17 The system will display the main fields for the outage as read only fields. If the user has elected to view the commissioning information then the record id, effective date and comments of any linked commissioning records will be displayed read only.
- 4.50.4.2.18 The system will display the comments and notes requested for display by the user. If the system is displaying the Initial Placement Notes, Optimisation Notes, Delivery Notes or the Control Room Notes fields then these will be displayed with their HTML formatting

and next to each field the system will display the id of the user who last updated the field along with the date and time that they made the change.

- 4.50.4.2.19 The SO Comments, TO Comments and Operational Remarks fields will be displayed in updateable fields if the user has Edit Planned Outage security permission. The four notes fields will only be updatable if the user has the appropriate security permission.
- 4.50.4.2.20 If the outage was placed in the plan on or before the handover date then the initial placement notes will only be updateable if the system date is on or before the handover date.
- 4.50.4.2.21 If the outage start date has been changed since all of the initial placement, optimisation or delivery notes were last updated then the system will display a warning message by the last updated one.
- 4.50.4.2.22 The list will contain a link to the Edit Planned Outage and the Commissioning Information Record screens. These screens will be displayed in a separate popup window in view only mode.
- 4.50.4.2.23 The user can update any of the updatable fields on any of the displayed records and press the Save button.
- 4.50.4.2.24 The system saves the modifications to the database.
- 4.50.4.2.25 The use case ends.

4.50.4.3 Special Requirements (Secure Access Privilege)

Accessible by View Planned Outages and Edit Planned Outages security operations. If the user has 'View Initial Placement Notes', 'View Optimisation Notes', 'View Delivery Notes', 'View Control Room Notes', 'Edit Initial Placement Notes', 'Edit Optimisation Notes', 'Edit Delivery Notes' and/or 'Edit Control Room Notes' security operations then the user will be able to access additional fields.

TO should be able to view the SO Comments and Operational Remarks fields. (1910)

4.50.4.4 Pre-conditions

Some planned outages must exist within TOGA

4.50.4.5 Post-conditions

The outages are updated as appropriate

4.50.4.6 Extension Points

None

4.51 3030101ListStatusValues

4.51.1 Security Operation Access

Accessible by ViewStatus and EditStatus security operations.

4.51.2 Initialisation

The list of status code records is displayed in ascending status name order. The fields displayed are the status_code, description, cancelled_status, last_updated_by and last_updated_date from the status_code table.

A Select icon will be displayed next to each status.

A Delete icon will be displayed next to each status where the system_created field = 0 and is also not being referenced by any Request outage.

If the user has EditStatus permission then the Add button is displayed.

4.51.3 Processing

The selection of the 'Select' button will call 3030102AddEditStatusValues in View/Edit mode.

The selection of the 'Add' button will call 3030102AddEditStatusValues in Add mode.

4.51.4 Validation

N/A

4.51.5 Use Cases Covered

Define Status (along with 3030102AddEditStatusValues)

4.52 3030102AddEditStatusValues

4.52.1 Security Operation Access

Accessible by ViewStatus and EditStatus security operations.

4.52.2 Status Values Screen to Database Mapping

| Screen field | Database table | Field |
|--------------|----------------|-------------|
| Status | status_code | status_code |
| Description | status_code | description |

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| | | |
|--|-------------|------------------|
| Cancelled | status_code | cancelled_status |
| Roles who can access data at this status | status_code | access_roles |
| Roles who can change data to this status | status_code | change_to_roles |

4.52.3 Initialisation

If called from the menu using the Add option then present user with blank record otherwise populate the screen with the selected status details.

If the user has ViewStatus but not EditStatus then all of the fields will be non updateable and the Save button will not be displayed.

If the user has EditStatus then all fields will be updateable.

4.52.4 Validation

| Screen Field | Field Constraints | Validation / description |
|--|--|-----------------------------------|
| | <ul style="list-style-type: none"> Mandatory/Optional Unique Read-only/Editable | |
| Status | Mandatory, unique | Cannot be changed once committed. |
| Description | Mandatory | Free text field. |
| Cancelled | Mandatory | Checkbox |
| Roles who can access data at this status | Optional | Series of checkboxes |
| Roles who can change data to this status | Optional | Series of checkboxes |

4.52.5 Processing

Details are saved to the database when the Save button is pressed.

The access_roles string will be populated with a concatenated list of the checked roles listed under 'Roles who can edit data at this status'.

The change_to_roles string will be populated with a concatenated list of the checked roles listed under 'Roles who can change data to this status'.

4.52.6 Use Cases Covered

Define Status (along with 3030101ListStatusValues)

Define which roles can access data with this status

Define which roles can move data to this status

5. REPORTS

5.1 *Daily Outage Report*

5.1.1 Description

The report will consist of a header (parameter) page and a list of the outages that start, end or span the specific date.

If the Summary Reports parameter is set to Y then the list of outages will be in the summary report format otherwise they will be in the detailed report format.

The outage data displayed will be the planned outages which:

- ✓ start, end or span the parameter date
- ✓ include the SO party parameter (if chosen)
- ✓ include the TO party parameter (if chosen)
- ✓ are not TO bookings (unless include TO bookings parameter is set)
- ✓ the outage has not been cancelled or have a status of 'Not Taken' or 'TBA'
- ✓ are not outages of 'Affects operation/study' impact (unless the required by the parameter setting)
- ✓ the data displayed may be limited by the 'Only show outages starting or ending on the report date' parameter

If a user is a Commissioning user, the report will have an additional page(s) displaying the commissioning records. The criteria to select the commissioning record is:

- ✓ start, end or span the parameter date
- ✓ linked to planned outages of the SO/TO parties specified on the parameter screen

The lay out of the report is same as the 10502ListCommissioning report.

Validation: Should only list SO confidential outages to the user if the user has view/ edit TOPAM SO confidential outages:. (1490)

5.1.2 Report Parameters

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| Parameter | Mandatory Optional | Other |
|---|-----------------------|--|
| Date | Mandatory | Single |
| SO Party | Optional | Multiple |
| TO Party | Optional | Multiple |
| Summary Report | Checkbox | |
| Include outages of 'Affects operation/study' impact | Checkbox | This includes outages of SO impact 'D' |
| Include outages of No Impact | Checkbox | This includes outages of SO impact 'E' |
| Which comments to display | Mandatory | One of 'SO Comments' – the default, TO Comments, 'Initial Placement Notes', 'Optimisation Notes', 'Delivery Notes' or 'Control Room Notes' Only display those which the user can view based upon the security operations: 'View Initial Placement Notes', 'View Optimisation Notes', 'View Delivery Notes', 'View Control Room Notes', 'Edit Initial Placement Notes', 'Edit Optimisation Notes', 'Edit Delivery Notes' and 'Edit Control Room Notes' SO Comments and TO Comments is always an option. |
| Include TO bookings | Checkbox | |
| Only show outages starting or ending on the report date | Checkbox | |
| Sort by Service | Checkbox | If checked, the report will sort by "out of service" bookings first and then by in service bookings (2124) |

5.1.3 Data Sequence

Start on parameter date / End on parameter date / Span parameter date

within the above groupings the data will be displayed in SO impact order (A, B and C grouped together followed by D and then E (if required))

within the above groupings the data will be displayed in ascending start date and then end date order

5.1.4 Data Ordering

None.

5.1.5 Summary Report

5.1.5.1 Summary Layout

| Outage | Circuit / Description | NASAPS | Main Circuit Service | Start Date | End Date | ERTS | Start/ End Today | D/C |
|--------|-----------------------|--------|----------------------|------------|----------|------|------------------|-----|
|--------|-----------------------|--------|----------------------|------------|----------|------|------------------|-----|

5.1.5.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|---------------------------------|---|
| Outage Number | | tra_outage | tra_outage_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| NASAPS | Multiple NASAP codes are displayed 4 per row | asset_out | asset_id |
| Service | Display value 'IN' for 1 or 'OUT' for 0 | tra_outage | service |
| Start Date | | tra_outage | start_date |
| End Date | | tra_outage | end_date |
| ERTS | erts_day/erts_night e.g. 4h/6h | tra_outage | erts_day, erts_night |
| Start/End Today | Value 'S' if the outage starts on the report date, 'E' if it ends on the report date or '-' if it spans the report date | N/A | |
| D/C | Value 'D' (for daily) or 'C' (for Continuous) | tra_outage | continuous |

5.1.6 Detailed Report

5.1.6.1 Detailed Layout

| Outage Number | Circuit / Description | Start Date/ Time | Work Involved | Remarks | SO Parties | TO Parties | RE ST N D/N | NA SA P | Main Circuit Service | Work Type | Start/ End Today | D/C |
|----------------|-----------------------|------------------|---------------|---------|------------|------------|-------------|---------|----------------------|-----------|------------------|-----|
| | | PER Date / Time | | | | | | | | | | |
| | | TO | | | | | | | | | | |
| | | Pending | | | | | | | | | | |
| | | Request Impact | | | | | | | | | | |
| External Party | OC2 Comments | | | | | | | | | | | |

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| |
|-----------------------------|
| (Selected Type) Comments |
|-----------------------------|

5.1.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|--|---|
| Outage Number | | tra_outage | tra_outage_id |
| TO | | tra_outage | tra_owner |
| Pending | Display 'Pending Exists' if a pending outage exists for this planned outage | | |
| Request | Display the request number for any non closed request outage associated with this planned / pending outage. | Request_outage | Request_outage_id |
| Impact | Single char Impact type | tra_outage | so_significance_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| Start date/time | Format DD/MM/YY HH:MI Date (not time) in bold | tra_outage | start_time |
| PER date/time | Format DD/MM/YY HH:MI | tra_outage | planned_early_release |
| APA date/time | Format DD/MM/YY HH:MI | tra_outage | planned_apa |
| PFW date/time | Format DD/MM/YY HH:MI | tra_outage | pfw_date |
| End date/time | Format DD/MM/YY HH:MI Date (not time) in bold | tra_outage | end_date |
| Work involved | Text spanning multiple lines | tra_outage | work_involved |
| Remarks | Text spanning multiple lines. | tra_outage | remarks |
| SO Parties | Multiple values listed down the page | party_link where party_type = SO and linked_table_id = tra_outage_id | party_id |
| TO Parties | Multiple values listed down the page | party_link where party_type = TO and linked_table_id = tra_outage_id | party_id |
| RESTN D/N | Day and night figures | tra_outage | erts_day & erts_night |
| NASAPS | Listed down the page | asset_out matched on tra_outage_id | asset_id |
| Main | Display value 'IN' for 1 and 'OUT' | tra_outage | service |

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| Report | Notes / Transformations | Database Table | Database Column |
|-------------------------------|---|--|--|
| Circuit Service | for 0. | | |
| Work Type | Multiple values listed down the page | dcd_out matched on tra_outage_id | dcd_id |
| Start/End Today | Value 'S' if the outage starts on the report date, 'E' if it ends on the report date or '-' if it spans the report date. | N/A | |
| D/C | Value 'D' (for daily) or 'C' (for Continuous) | tra_outage | continuous |
| External Party / OC2 comments | A list down the page of all the external parties on the outage. To the right of each party is their comment, which could span multiple lines. | party_link where party_type = External and linked_table_id = tra_outage_id | party_id & ext_party_comment |
| (Selected Type) comments | Relevant comment as defined by the parameter - text spanning multiple lines – displayed in HTML format | tra_outage | Either so_comments, gbso_year_comm., gbso_optim_comm., gbso_deliv_comm., tra_owner_comm, control_act_comm. |

5.2 Weekly Outage Report

5.2.1 Description

The report will consist of a header (parameter) page and a list of the outages that start in, end in or span the specific date range.

If the Summary Reports parameter is set to Y then the list of outages will be in the summary report format otherwise they will be in the detailed report format.

The outage data displayed will be the planned outages which:

- ✓ start, end or span the parameter date range
- ✓ include the SO party parameter (if chosen)
- ✓ include the TO party parameter (if chosen)
- ✓ are not TO bookings (unless include TO bookings parameter is set)
- ✓ the outage has not been cancelled or have a status of 'Not Taken' or 'TBA'
- ✓ are not outages of 'Affects operation/study' impact (unless the required by the parameter setting)

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If a user is a Commissioning user, the report will have an additional page(s) displaying the commissioning records. The criteria to select the commissioning record is:

- ✓ start, end or span the parameter date range
- ✓ linked to planned outages of the SO/TO parties specified on the parameter screen

The lay out of the report is same as the 10502ListCommissioning report.

Validation: Should only list SO confidential outages to the user if the user has view/ edit TOPAM SO confidential outages:. (1490)

5.2.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|---|-----------------------|---|
| Date Range | Mandatory | See section 1.4 for allowable formats |
| SO Party | Optional | Multiple |
| TO Party | Optional | Multiple |
| Summary Report | Checkbox | |
| Include outages of 'Affects operation/study' impact | Checkbox | This includes outages of SO impact 'D'. By default, 'Checked' |
| Include outages of No Impact | Checkbox | This includes outages of SO impact 'E'. By default, Unchecked |
| Which comments to display | Mandatory | One of 'SO Comments' – the default, TO Comments, 'Initial Placement Notes', 'Optimisation Notes', 'Delivery Notes' or 'Control Room Notes' Only display those which the user can view based upon the security operations: 'View Initial Placement Notes', 'View Optimisation Notes', 'View Delivery Notes', 'View Control Room Notes', 'Edit Initial Placement Notes', 'Edit Optimisation Notes', 'Edit Delivery Notes' and 'Edit Control Room Notes' SO Comments and TO Comments is always an option. |

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| Parameter | Mandatory Optional | Other |
|----------------------------|-----------------------|--|
| | | This field should be optional and hence have a blank in the drop down box which the report will default to(1964) |
| Include TO bookings | Checkbox | By default, Unchecked |
| Include Generation Outages | Checkbox | Only display this option to users with View Outage or SO View Outage security operations. By default, Unchecked |
| Sort by Service | Checkbox | If checked, the report will sort by "out of service" bookings first and then by in service bookings (2124) |

5.2.3 Data Sequence

Span parameter date range (Start/End field = '-') / End in Parameter date range (Start/End field 'E' or 'SE' / Start in parameter date range (Start/End field 'S' or 'SE') -

within the above groupings the data will be displayed in SO impact order (A, B and C grouped together followed by D and then E (if required)

within the above groupings the data will be displayed in ascending start date and then end date order

If the user has opted to view Generation Outages then these will be presented in a section at the end of the report in increasing Generating Unit and Start Date order.

5.2.4 Data Ordering

None.

5.2.5 Summary Report

5.2.5.1 Summary Layout

| Outage | Circuit / Description | NASAPS | Main Circuit Service | Start Date | End Date | ERTS | Start/ End In Week | D/C |
|--------|-----------------------|--------|----------------------|------------|----------|------|--------------------|-----|
|--------|-----------------------|--------|----------------------|------------|----------|------|--------------------|-----|

5.2.5.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|---------------|-------------------------|----------------|-----------------|
| Outage Number | | tra_outage | tra_outage_id |

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| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|--|---------------------------------|---|
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| NASAPS | Multiple NASAP codes are displayed 4 per row | asset_out | asset_id |
| Main Circuit Service | Display value 'IN' for 1 or 'OUT' for 0 | tra_outage | service |
| Start Date | | tra_outage | start_date |
| End Date | | tra_outage | end_date |
| ERTS | erts_day/erts_night e.g. 4h/6h | tra_outage | erts_day, erts_night |
| Start/End in Week | Value 'S' if the outage starts in the report date range, 'E' if it ends (but does not start) in the report date range, 'SE' if starts and ends in the report dates or '-' if it spans the report date range. | N/A | |
| D/C | Value 'D' (for daily) or 'C' (for Continuous) | tra_outage | continuous |

5.2.6 Detailed Report

5.2.6.1 Detailed Layout

| Outage Number | Circuit / Description | Start Date/ Time | Work Involved | <Days Covered> | Remarks | SO Parties | TO Parties | REST N D/ N | NASAP | Main Circuit Service | Work Type | Start/ End Today | D/C |
|--------------------------|-----------------------|------------------|---------------|----------------|---------|------------|------------|-------------|-------|----------------------|-----------|------------------|-----|
| TO | | PER Date / Time | | | | | | | | | | | |
| Pending | | APA Date Time | | | | | | | | | | | |
| Request Impact | | PFW Date / Time | | | | | | | | | | | |
| External Party | | End Date/ Time | | | | | | | | | | | |
| (Selected Type) Comments | OC2 Comments | | | | | | | | | | | | |

5.2.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|--|--|---|
| Outage Number | | tra_outage | tra_outage_id |
| TO | | tra_outage | tra_owner |
| Pending | Display 'Pending Exists' if a pending outage exists for this planned outage | | |
| Request | Display the request number for any non closed request outage associated with this planned / pending outage. | Request_outage | Request_outage_id |
| Impact | Single char Impact type | tra_outage | so_significance_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| Start date/time | Format DD/MM/YY HH:MI Date (not time) in bold | tra_outage | start_time |
| PER date/time | Format DD/MM/YY HH:MI | tra_outage | planned_early_release |
| APA date/time | Format DD/MM/YY HH:MI | tra_outage | planned_apa |
| PFW date/time | Format DD/MM/YY HH:MI | tra_outage | pfw_date |
| End date/time | Format DD/MM/YY HH:MI Date (not time) in bold | tra_outage | end_date |
| Work involved | Text spanning multiple lines | tra_outage | work_involved |
| <Days Covered> | The title of this field will be the first letter of the first seven days of the report. For example if the start day of the report is a Tuesday then the field title will be 'T W T F S S M'. The data will contain an 'X' for each day of the first seven days of the report that the outage spans. | Calculated from tra_outage.start_date and tra_outage.end_date | |
| Remarks | Text spanning multiple lines. | tra_outage | remarks |
| SO Parties | Multiple values listed down the page | party_link where party_type = SO and linked_table_id = tra_outage_id | party_id |
| TO Parties | Multiple values listed down the page | party_link where party_type = TO and linked_table_id = tra_outage_id | party_id |
| RESTN D/N | Day and night figures | tra_outage | erts_day & erts_night |
| NASAPS | Listed down the page | asset_out matched on tra_outage_id | asset_id |

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| Report | Notes / Transformations | Database Table | Database Column |
|-------------------------------|--|--|--|
| Service | Display value 'IN' for 1 and 'OUT' for 0. | tra_outage | service |
| Work Type | Multiple values listed down the page | dcd_out matched on tra_outage_id | dcd_id |
| Start/End in Week | Value 'S' if the outage starts in the report date range, 'E' if it ends (but does not start) in the report date range, 'SE' if starts and ends in the report dates or '-' if it spans the report date range. | N/A | |
| D/C | Value 'D' (for daily) or 'C' (for Continuous) | tra_outage | continuous |
| External Party / OC2 comments | A list down the page of all the external parties on the outage. To the right of each party is their comment, which could span multiple lines. | party_link where party_type = External and linked_table_id = tra_outage_id | party_id & ext_party_comment |
| (Selected Type) comments | Relevant comment as defined by the parameter - text spanning multiple lines – displayed in HTML format | tra_outage | Either so_comments, gbso_year_comm., gbso_optim_comm., gbso_deliv_comm., Tra_owner_comm, control_act comm. |

5.2.7 Generator Outages

5.2.7.1 Data Selection / Sequence

Display all generator outages that intersect with the report date range. Display the outages in increasing start date order and in increasing Generating unit name order within this.

5.2.7.2 Detailed Layout

| Generator | Start Date / Time | End Date / Time | MW Loss | Comment | Internal Comment |
|-----------|-------------------|-----------------|---------|---------|------------------|
|-----------|-------------------|-----------------|---------|---------|------------------|

5.2.7.3 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-------------------|--|-------------------|----------------------|
| Generator | | generator_outages | generating_unit_name |
| Start Date / Time | Format DD/MM/YYYY HH:MI (in 24 hour clock) | generator_outages | start_date |
| End Date / Time | Format DD/MM/YYYY HH:MI (in 24 hour clock) | Generator_outages | end_date |
| MW Loss | | Generator_outage | mw_loss |

| Report | Notes / Transformations | Database Table | Database Column |
|------------------|-------------------------|-------------------|-------------------|
| | | es | |
| Comment | | Generator_outages | comments |
| Internal Comment | | Generator_outages | internal_comments |

5.3 General Outage Report

5.3.1 Description

This report prints a list of planned or pending outages. The parameter list matches that of the Outage List Filter within TOGA. In addition the user may enter a Round Up date (which uses the outage history to show the outages as at that point in time).

The report offers detailed and summary report formats, a Paged Print option (which allows groups the outages by their starting week and displays the week number in the report heading), the ability to group the data by substations and download options for files either planned or request outages.

Validation: Should only list SO confidential outages to the user if the user has view/ edit TOPAM SO confidential outages:. (1490)

5.3.2 Report Parameters

The General Outage Report will contain all of the selection criteria from the planned outage list filter. As the Outage Management Design document is still being discussed the list of fields is not being stated here. The additional report parameters that are required are:

- a Round Up Date field
- Paged Print option which gives a page throw for each week that has outages starting on it.
- The report will include the comment selection
- option to include generator outages selection fields as on the weekly outage report. Only display this option to users with View Outage or SO View Outage security operations
- a Summary / Detail Reports option
- the option to display and query upon actual start and end dates instead of planned start / end dates

- the option to only display outages with a PFW time entered
- sort order (by start date or by outage number)
- Plan Year and a check box to select outages with the selected plan year

5.3.3 Data Selection

The report will display all non cancelled planned or pending outages which match the entered query parameters. If user has specified plan year but not checked the 'Outages only with this plan year' checkbox, display outages intersecting with start/end date range defined for the plan year. For given plan year, if the checkbox is checked, display outages having plan year equal to given plan year.

Create electronically readable format of Customer Topam generator outage reports. The detail design for this solution needs to be done on the basis of proof of concept. (2101)

5.3.4 Data Ordering

Order by Start Date, Outage Number or just by outage number.

5.3.5 Data Grouping

If the Group by Substation option is selected then the report will consist of one section per distinct substation on the selected outages. Each section will list all of the outages that have the substation. Therefore an outage can appear in many different substation sections.

If the Paged Print option is selected then the report will group together the outages by starting week and display the week number in the heading of the page.

If the user has selected both Group by Substation and Paged Print then the report will consist of a page per substation per outage starting week with the outage data grouped accordingly.

5.3.6 Summary Report

5.3.6.1 Summary Layout

| Outage | Circuit / Description | NASAPS | Main Circuit Service | Start Date | End Date | ERTS | D/C |
|--------|-----------------------|--------|----------------------|------------|----------|------|-----|
|--------|-----------------------|--------|----------------------|------------|----------|------|-----|

5.3.6.2 Report Field to Database Field Mapping

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| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|---------------------------------|---|
| Outage Number | | tra_outage | tra_outage_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| NASAPS | Multiple NASAP codes are displayed 4 per row | asset_out | asset_id |
| Service | Display value 'IN' for 1 or 'OUT' for 0 | tra_outage | service |
| Start Date | | tra_outage | start_date |
| End Date | | tra_outage | end_date |
| ERTS | erts_day/erts_night e.g. 4h/6h | tra_outage | erts_day, erts_night |
| D/C | Value 'D' (for daily) or 'C' (for Continuous) | tra_outage | continuous |
| SO Cost Change | | Tra_outage | so_cost_change |
| SO Cost Reference | | Tra_outage | So_cost_reference |

5.3.7 Detailed Report

5.3.7.1 Detailed Layout

| Outage Number | Circuit / Description | Start Date/ Time | Work Involved | Remarks | SO Parties | TO Parties | RES TN D/N | NAS AP | Main Circuit Service | Work Type | D/C |
|--------------------------|-----------------------|------------------|---------------|---------|------------|------------|------------|--------|----------------------|-----------|-----|
| TO | | PER Data/Time | | | | | | | | | |
| Pending | | APA Date Time | | | | | | | | | |
| Request Impact | | PFW Date/Time | | | | | | | | | |
| | | End Date/Time | | | | | | | | | |
| External Party | OC2 Comments | | | | | | | | | | |
| (Selected Type) Comments | | | | | | | | | | | |

5.3.7.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|--------|-------------------------|----------------|-----------------|
| Outage | | tra_outage | tra_outage_id |

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| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|--|---|
| Number | | | |
| TO | | tra_outage | tra_owner |
| Pending | Display 'Pending Exists' if a pending outage exists for this planned outage | | |
| Request | Display the request number for any non closed request outage associated with this planned / pending outage. | Request_outage | Request_outage_id |
| Impact | Single char Impact type | tra_outage | so_significance_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| Start date/time | Format DD/MM/YY HH:MI Date (not time) in bold | tra_outage | start_date |
| PER date/time | Format DD/MM/YY HH:MI | tra_outage | planned_early_release |
| APA date/time | Format DD/MM/YY HH:MI | tra_outage | planned_apa |
| PFW date/time | Format DD/MM/YY HH:MI | tra_outage | pfw_date |
| End date/time | Format DD/MM/YY HH:MI Date (not time) in bold | tra_outage | end_date |
| Work involved | Text spanning multiple lines | tra_outage | work_involved |
| Remarks | Text spanning multiple lines. | tra_outage | remarks |
| SO Parties | Multiple values listed down the page | party_link where party_type = SO and linked_table_id = tra_outage_id | party_id |
| TO Parties | Multiple values listed down the page | party_link where party_type = TO and linked_table_id = tra_outage_id | party_id |
| RESTN D/N | Day and night figures | tra_outage | erts_day & erts_night |
| NASAPS | Listed down the page | asset_out matched on tra_outage_id | asset_id |
| Main Circuit Service | Display value 'IN' for 1 and 'OUT' for 0. | tra_outage | service |
| Work Type | Multiple values listed down the page | dcd_out matched on tra_outage_id | dcd_id |
| D/C | Value 'D' (for daily) or 'C' (for | tra_outage | continuous |

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| Report | Notes / Transformations | Database Table | Database Column |
|-------------------------------|---|--|--|
| | Continuous) | | |
| External Party / OC2 comments | A list down the page of all the external parties on the outage. To the right of each party is their comment, which could span multiple lines. | party_link where party_type = External and linked_table_id = tra_outage_id | party_id & ext_party_comment |
| (Selected Type) comments | Relevant comment as defined by the parameter - text spanning multiple lines – displayed in HTML format | tra_outage | Either gbso_year_comm., gbso_optim_comm., gbso_deliv_comm., tra_owner_comm., control_act_comm. |
| SO Cost Change | | Tra_outage | so_cost_change |
| SO Cost Reference | | Tra_outage | So_cost_reference |

5.3.8 Generator Outages

5.3.8.1 Data Selection / Sequence

Display all generator outages that intersect with the report date range. Display the outages in increasing start date order and in increasing Generating unit name order within this.

5.3.8.2 Detailed Layout

| Generator | Start Date / Time | End Date / Time | MW Loss | Comment | Internal Comment |
|-----------|-------------------|-----------------|---------|---------|------------------|
|-----------|-------------------|-----------------|---------|---------|------------------|

5.3.8.3 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-------------------|--|-------------------|----------------------|
| Generator | | generator_outages | generating_unit_name |
| Start Date / Time | Format DD/MM/YYYY HH:MI (in 24 hour clock) | generator_outages | start_date |
| End Date / Time | Format DD/MM/YYYY HH:MI (in 24 hour clock) | Generator_outages | end_date |
| MW Loss | | Generator_outages | mw_loss |
| Comment | | Generator_outages | comments |
| Internal Comment | | Generator_outages | internal_comments |

5.3.9 Planned Outage Download File

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The format and fields included in this download will be identical to the ALLOD1 download file in TOPAM2. This file includes special characters to separate the data items (¥ for new record, ¢ for new field and ° between repeating values in a field). The data output will be:

¥AREA
 ¢RUN DATE
 ¢INPUT START DATE
 ¢INPUT FINISH DATE
 ¢TYPE OF CHANGE
 ¢TYPE OF OUTAGE
 ¢GCA
 ¢OUTAGE NUMBER
 ¢YEAR
 ¢EQUIPMENT
 ¢START DATE
 ¢START ESI WEEK
 ¢START DAY
 ¢FINISH DATE
 ¢FINISH ESI WEEK
 ¢FINISH DAY
 ¢PFW DATE
 ¢DAILY/CONTINUOUS
 ¢INDEX
 ¢VOLTAGE
 ¢DA
 ¢REQUIRED BY
 ¢APN STATUS
 ¢LAST UPDATED
 ¢ISOS TIME
 ¢PER TIME
 ¢APA TIME
 ¢PFW TIME
 ¢RTS TIME
 ¢DESCCODE1¢DESCCODE2¢DESCCODE3¢DESCCODE4¢DESCCODE5¢DESCCODE6
 ¢ROOMS1¢ROOMS2
 ¢DETAIL OF WORK
 ¢REMARKS
 ¢OC2REMARKS
 ¢CHECK
 ¢REST DAY¢REST NIGHT
 ¢SWITCH DURATION
 ¢LEAD NUMBER
 ¢TOWER REF1¢TOWER REF2¢TOWER REF3¢TOWER REF4
 ¢PARTY1¢PARTY2¢PARTY3¢PARTY4¢PARTY5¢PARTY6¢PARTY7¢PARTY8¢PARTY9¢PARTY10¢PARTY11¢PARTY12¢PARTY13¢PARTY14¢PARTY15
 ¢FREECODE
 ¢NASAP1¢NASAP2¢NASAP3¢NASAP4
 ¢SUBSTN1¢SUBSTN2¢SUBSTN3¢SUBSTN4
 ¢PLACEMENT
 ¢OPTION
 ¢WORKCAT¢

5.4 Changes Report

5.4.1 Description

This report displays a list of outages that affect specified external parties and have changed since the user last ran the report. The report gives details of the changes made to the outages.

It is expected that this report will be run by SO, TO, Generating Company, Powerstation and DNO users.

5.4.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|--------------------------|-----------------------|--|
| Last Run Date / Time | Mandatory | Whenever this report is run the actual date and time of running the report is stored against the user. Therefore when the user selects the report for running for a subsequent time the 'Last Run Date / Time' parameter will default to the actual time that the user last ran the report. The user can override this default value. |
| Licensed Area | Optional, Multiple | List of TRA_OWNER_IDs displayed to SO users who can pick multiple values. A TO user will not see the list and the parameter will be set to the user's TO licensed area. A Generating Company user will see a list of all TO licensed areas on basic outages where a powerstation within the company appears as an external party. A Powerstation user will see a list of all TO licensed areas on basic outages where the powerstation appears as an external party. A DNO/DCC user will not see the list and the parameter will not be set. |
| Start Date | Optional | |
| End Date | Optional | |
| Generator Owning Company | Optional, Single | List of GENERATING_COMPANY.COMPANY_NAME values – all values in table. The user can pick one of these values. This will reduce the list in the External Party parameter to be just the Powerstations below the company. Field unavailable for Generating Company, Powerstation and DNO/DCC users. |
| External Party | Optional, Multiple | List of EXTERNAL_PARTY.EXTERNAL_PARTY_Ids – all values. If user is a Generating Company user then this list is reduced to |

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| Parameter | Mandatory Optional | Other |
|---|-----------------------|--|
| | | the powerstations in he company. If the user is a Powerstation user then this list will only include their Powerstation and this value will be automatically selected. If the user is a DNO/DCC user then this list will only include their DNO/DCC and this value will be automatically selected. |
| All DNOs | Checkbox | If selected will override the values entered in the 'External Party' field above. It is only selectable by SO and TO users. |
| All Powerstations | Checkbox | If selected will override the values entered in the 'External Party' field above. It is only selectable by SO and TO users. |
| Include outages of 'Affects operation/study' impact | Checkbox | This includes outages of SO impact 'D' |
| Include outages of No Impact | Checkbox | This includes outages of SO impact 'E' |
| Outage Type | Mandatory, Single | List of fixed values ' DNO/DCC Only', 'NGT Only', 'TO Bookings', 'All'. |
| Show Work Involved | Checkbox | If the 'Restrict Show Work Involved parameter in Changes Report' system parameter is set to 1 then this field is only selectable by SO and TO users, otherwise any user can select it. |
| Group by Party | Checkbox | |

5.4.3 Data Selection

The Outage Type parameter governs whether the report contains only DNO Outages, only Standard outages, only TO Booking outages or all three. The report will never show Comment or SO Confidential outages.

Only include outages that have had a change since the Last Run Date / Time except where the only change is a change of status but not to 'Not Taken', 'TBA' or 'Cancelled'.

Only display outages where their dates intersect with the start/end dates specified. However, for External users, the outages which start beyond a user defined (system parameter) date are not displayed, even though date range (user specified) goes beyond it.

The licensed area must match the parameter (if entered)

If any External Parties are entered in the parameters then the outages must have one or more of these parties attached.

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If the All DNOs or All Powerstation checkboxes are checked then outages with any DNO or Powerstation external parties will be displayed. This overrides the individual External Parties entered in the parameter above.

SO Impact – always include A, B, C in report – also include D and E if the parameters checkboxes are checked.

Report should just look at all changes for the period specified by plan year. Not outages with a plan year that has been selected. (2000)

5.4.4 Data Ordering

Order by Start Date, Outage Number.

5.4.5 Data Grouping

If the Group By Party field is checked then the report will consist of one section per External Party matching the search criteria. Each section will list all of the changes for outages that have the external party. Therefore an outage can appear in many different parties' sections. It is also possible that a section will have no changed outages in which case the report should contain the text 'No Changes Found'.

Each party's section will restart at page number 1.

5.4.6 Report Details

5.4.6.1 Report Layout

| Stat us | Outag e No | Circuit / Descriptio n | Star t / Fini sh | Tim es | C / D | Work Involved | ERTS Day, ERTS Night | Type Date of Change | Party | OC2 Remarks |
|------------|---------------|------------------------------|---------------------------|-----------|----------|------------------|-------------------------------|---------------------------|-------|-------------|
|------------|---------------|------------------------------|---------------------------|-----------|----------|------------------|-------------------------------|---------------------------|-------|-------------|

5.4.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|--------------------------|--|------------------------------------|--|
| Status | This is a calculated field. It will contain 'Addition' if the outage did not exist as at the Last Run date, 'Cancelled' if the outage is now cancelled but was not at the Last Run date, or 'Updated for all other conditions. | | |
| Outage No | | tra_outage | tra_outage_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate | tra_outage and /or basic_outage | description and/or additional_descrip tion |

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| Report | Notes / Transformations | Database Table | Database Column |
|----------------------|--|----------------|---|
| | tra_outage.additional_description on the end with a space between | | |
| Start / Finish | Format DD/MM/YYYY | tra_outage | start_date, end_date |
| Times | Display APA, ISOS, PFW and RTS dates above each other with a label next to each. Use format HHMM (24 hour clock) | tra_outage | planned_apa, start_date, pfw_date, end_date |
| C/D | | tra_outage | continuous |
| Work Involved | Displayed only if the 'Show Work Involved' parameter is selected. | tra_outage | work_involved |
| ERTS Day, ERTS Night | | tra_outage | erts_day, erts_night |
| Type Date of Change | A calculated field. List the data items that have changed on the outage since the Last Run Date / Time. Possible values are 'Availability', 'C/D', 'End Date', 'ERTS Day', 'ERTS Night', 'Plan Year', 'In Service', 'Start Date' and 'Circuit (if the Basic_outage_id has changed). Additionally display a change type of 'Not Taken', 'TBA' or 'Cancelled' if the status has changed to one of these values. Do not count other status changes as a change. | | |
| Party | This is the external party. This field should not be displayed if the report is running in 'Group By Party' mode, or in single external party mode, as the party will be part of the page heading. Otherwise display all of the external parties (matching the query parameters) | party_link | party_id |
| OC2 Remarks | This is the comments associated with the selected external parties | party_link | ext_party_comment |

5.5 TORF and Pending Outage Listing Report

5.5.1 Description

This report displays a list of all of the pending outages for a particular plan year. The user can optionally enter a 'Changes Since' date/time which will restrict the report to pending outages which have been created or modified since the entered date.

5.5.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|-------------------|-----------------------|---|
| Licensed Area | Optional | List of TRA_OWNER_IDs displayed to SO users who can pick multiple values. A TO user will not see the list and the parameter will be set to the user's TO licensed area. |
| Plan Year | Mandatory, Single | List of distinct plan_years. |
| Last Enquiry Date | Optional | Date field |
| Outage Status | Optional, Multiple | List of 'Editable', 'Awaiting Authorisation', 'Rejected Pending'. |

5.5.3 Data Ordering

The data is displayed in increasing 'last changed' date order.

5.5.4 Data Grouping

None

5.5.5 Data Selection

The main query for the report will be based upon the transmission outage (tra_outage) table.

Include pending outage records where:

- the tra_owner_id on the record matches the licensed area parameter (if entered).
- the outage dates intersect the parameter date range or start / end date of the selected plan year
- the outage equipment owner is a TO – as opposed to being a DNO/DCC
- the last_updated_date value is greater than or equal to the Last Enquiry Date parameter (if entered)
- Outage could appear in more than one plan year based on the dates that are changing or if the change affects the year.
 - ✓ If an outage start date is modified and both new and old start dates are in the same year, then the outage is shown in the plan year.
 - ✓ If an outage start date is modified and new start date is in a different year, then outage is shown in the report run for both the years.

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- ✓ If the outage start date is not modified, then outage will appear in the plan year only if the outage end date is modified and the new end date is in the same plan year.
- ✓ If an outage end date is modified and both new and old end dates are in the same year, then the outage is shown in the plan year.
- ✓ If an outage end date is modified and the new end date is in a different year, then outage is shown in the report run for both the years.
- ✓ If the outage end date is not modified, then outage will appear in the plan year only if the outage start date is modified and the new start date is in the same plan year.

5.5.6 Report Details

5.5.6.1 Report Layout

| Outage Number | Type | Purpose | Licensed Area | Proposed Start Date | Proposed End Date | Request Date & Time | Request By | Circuit / Description | SO Lead Planner |
|---------------|------|---------|---------------|---------------------|-------------------|---------------------|------------|-----------------------|-----------------|
|---------------|------|---------|---------------|---------------------|-------------------|---------------------|------------|-----------------------|-----------------|

5.5.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|---------------------------------|---|
| Outage Number | | tra_outage | tra_outage_id |
| Status | | tra_outage | status |
| Purpose | | tra_outage | purpose |
| Licensed Area | | tra_outage | tra_owner_id |
| Proposed Start Date | Format DD/MM/YYYY | tra_outage | start_date |
| Proposed End Date | Format DD/MM/YYYY | tra_outage | end_date |
| Request Date & Time | Format DD/MM/YYYY HH:MI (24 hour format) | tra_outage | last_updated_date |
| Request By | | tra_outage | last_updated_by |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| SO Lead Planner | | tra_outage | so_lead_planner |

5.6 Transmission Outage Plan

5.6.1 Description

This report displays a list of all the transmission outages covering a chosen time period. In addition, if the user enters a 'changes from' date then the report will indicate any changes made to the transmission outage plan since the specified date.

5.6.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|-------------------|--|---|
| Licensed Area | Optional | List of TRA_OWNER_IDs displayed to SO users who can pick multiple values. A TO user will not see the list and the parameter will be set to the user's TO licensed area. |
| Plan Year | Either the Plan Year or Date Range fields must be entered. Single value | List of distinct plan_years. |
| Date Range | Either the Plan Year or Date Range fields must be entered | See section 1.4 for allowable formats |
| Last Enquiry Date | Optional | Date field |

5.6.3 Data Ordering

The data is displayed in increasing start date order.

5.6.4 Data Grouping

None

5.6.5 Data Selection

The main query for the report will be based upon the transmission outage (tra_outage) table.

Include planned outage records where:

- the tra_owner_id on the record matches the licensed area parameter (if entered).
- the outage dates intersect the parameter date range or start / end date of the selected plan year

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- the outage is a standard outage – not TO booking, DNO outage or a comment entry
- the outage equipment owner is a TO – as opposed to being a DNO/DCC
- the outage is not cancelled since before the last enquiry date
- the outages affects a plan year for which the handover date is today or in the past

5.6.6 Report Details

5.6.6.1 Report Layout

| Start Date | End Date | Outage No | Circuit / Description | New / Changed / Cancelled |
|------------|----------|-----------|-----------------------|---------------------------|
| | | | | |

5.6.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|---------------------------|---|---------------------------------|---|
| Start Date | | tra_outage | start_date |
| End Date | | tra_outage | end_date |
| Outage No | | tra_outage | tra_outage_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| New / Changed / Cancelled | See below | N/A | N/A |

If the Last Enquiry Date parameter has been entered then the data in the history table (tra_outage_hist) needs to be taken into account. If the outage has been added to the plan since the Last Enquiry Date then the New/Changed/Cancelled field should contain 'New'. If the outage status is Cancelled, 'TBA' or Not Taken and it has been set to Cancelled, 'TBA' or Not taken since the last Enquiry Date then the New/Changed/Cancelled field should contain 'Cancelled'. If any of the displayed fields have been changed since the Last Enquiry Date then they should be displayed in bold text and the New/Changed/Cancelled field should display Changed (if not displaying New or Cancelled).

5.7 Basic Outage Report

5.7.1 Description

This report displays a list of the basic outage records.

5.7.2 Report Parameters

These report parameters will be same as on the basic outage list filter. The list filter screen will have a 'Print' button and a 'Download' button in addition to the usual List button. For completeness the list of parameters is copied here.

| Parameter | Mandatory Optional | Other |
|--|-----------------------|--|
| Reference Code | Optional | |
| Licensed Area | Optional, multiple | TRA_OWNER.TRA_OWNER_ID – If the user is an SO user then display all records. If the user is a TO user then only display their TRA_OWNER_ID in the list. |
| Group | Optional | |
| Status | Optional | List of status values – fixed values 'Editable', 'Proposed', 'Accepted', 'Rejected' and 'Withdrawn from Use'. Can choose one or more values. |
| DNO Outage | Optional | List of fixed values 'Only DNO' and 'Non DNO' |
| Parties | Optional, multiple | If user is an SO user then include all records from TOPAM_SO_PARTY table and TOPAM_TO_PARTY table and EXTERNAL_PARTY view. If the user is a TO user then show all records from the TOPAM_SO_PARTY table but only show records from TOPAM_TO_PARTY and EXT_PARTY where the TRA_OWNER matches the users TO value. |
| Risk Outages Only | Checkbox | |
| 'Date Range' and 'Only show Basic Outages starting or ending within the date range?' | Optional | |
| Substations (including groups)! | Optional, multiple | See TOPAM Basic Data Maintenance Design for details of usage of this field. |

5.7.3 Data Ordering

The data is displayed in increasing Basic Outage Reference order.

5.7.4 Data Grouping

None

5.7.5 Data Selection

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The main query for the report will be based upon the basic outages (basic_outage) table.

Include records where:

- the basic_outage_id matches the starting characters of the reference (if entered)
- the tra_owner_id on the record matches the licensed area parameter (if entered)
- the basic outage group matches the entered group (if any entered)
- if the DNO Outage field contains 'Only DNO' then the equipment owner must be a DNO, if the DNO Outage field contains 'Non DNO' then the equipment owner must not be a DNO, otherwise select records regardless of the type of equipment owner.
- the outage includes all of the selected parties
- the status must match one of the selected parameter values (if any chosen)
- if substations are selected then if the AND radio button is selected the outage must include all of the selected substations, if the OR radio button is selected then the outage must include one or more of the selected substations
- the valid from/to dates intersect the parameter date range
- if the Risk Outages Only checkbox is selected then only basic outages with the risk field set will be selected

5.7.6 Report Details

5.7.6.1 Report Layout

| | | | | | | | | | |
|-----------------|-----------------------|---------------------|------------|------------|------------|---------|-------------|-------------------------|--------|
| Basic Reference | Circuit / Description | Operational Remarks | SO Parties | TO Parties | Free Codes | NASA PS | Substations | SO Impact / Risk Outage | Status |
| External Party | OC2 Comments | | | | | | | | |

5.7.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------|-------------------------|----------------|-----------------|
| Basic Reference | | basic_outage | basic_outage_id |

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| Report | Notes / Transformations | Database Table | Database Column |
|-------------------------------|---|--|------------------------------|
| Circuit / Description | | basic_outage | description |
| Operational Remarks | | basic_outage | remarks |
| SO Parties | Multiple values listed down the page | party_link where party_type = SO and linked_table_id = basic_outage_id | party_id |
| TO Parties | Multiple values listed down the page | party_link where party_type = TO and linked_table_id = basic_outage_id | party_id |
| Free Codes | Multiple values listed down the page | basic_out_free_code matched on basic_outage_id | free_code_id |
| NASAPS | Listed down the page | basic_out_asset matched on basic_outage_id | asset_id |
| Substations | Listed down the page | basic_sub_out matched on basic_outage_id | substation_id |
| SO Impact | | basic_outage | so_significance_id |
| Risk Outage | Display 'Risk' if 1 otherwise leave blank | basic_outage | demand_at_risk |
| Status | | basic_outage | status |
| External Party / OC2 comments | A list down the page of all the external parties on the outage. To the right of each party is their comment, which could span multiple lines. | party_link where party_type = External and linked_table_id = basic_outage_id | party_id & ext_party_comment |

5.7.7 Full Basic Outage Download

The download option will produce a delimited file in comma delimited format with the lists of fields separated by semi colons. All fields will be wrapped in double quote characters except for the date fields.

The file will include a header record giving the column titles and then one row per basic outage selected.

The fields downloaded will be:

Basic Reference, Status, Circuit/description, A list of asset codes, A list of substation codes, SO impact, A list of external parties, A list of external party comments (in the same sequence as the external party list), A list of SO party codes, A list of TO party codes, Operational remarks, Licensed area, Valid from date, Valid to date, last updated date, last updated by, Equipment owner, Basic group, A list of free codes, A list of tower reference codes, the Risk flag and the Risk Details

5.7.8 Summary Basic Outage Download

The download option will produce a delimited file in comma delimited format. All fields will be wrapped in double quote characters.

The file will include a header record giving the column titles and then one row per basic outage selected.

The fields downloaded will be:

Licensed Area, Basic Reference, Group and Circuit/description

5.8 Control Room Monitoring Report

5.8.1 Description

This report shows a listing of all the planned outages which either have a planned start date in the past but no actual start date entered or a planned end date in the past and no actual end date entered. The report will highlight the missing data item(s).

The current PROGC report gives two distinct reports. The first is a detailed output of the planned outages starting on a particular date. The second is an outage per line listing of planned outages whose start or end date is in the past but does not have an actual value entered. The first part of this report will be satisfied with the control room view (phase 2 list filter). The second part will be satisfied by this new report.

5.8.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|---------------|-----------------------|---|
| Licensed Area | Optional | List of TRA_OWNER_Ids displayed to SO users who can pick multiple values. A TO user will not see the list and the parameter will be set to the user's TO licensed area. |
| Report Date | Mandatory | Defaults to tomorrow's date |
| SO Party | Optional | Multiple |
| TO Party | Optional | Multiple |
| Outage Type | Optional | Default to 'Standard' |

5.8.3 Data Selection

Only include outages where

- they are standard planned non cancelled outages.

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- the main circuit is out of service
- the SO Impact is 'A' , 'B' or 'C'
- the outage has the selected SO parties associated
- the outage has the selected TO parties associated
- the outage is of the selected type
- the outage has a planned start date before the Report Date but no actual start date OR the outage has a planned end date before the Report Date but no actual end date.

5.8.4 Data Ordering

The outages will be displayed in increasing finish date order.

5.8.5 Data Grouping

The data will be grouped by Licensed Area

5.8.6 Report Details

5.8.6.1 Report Layout

| Licensed Area | Outage Number | Circuit / Description | Planned Start Date | Planned End Date | RTS Time |
|---------------|---------------|-----------------------|--------------------|------------------|----------|
|---------------|---------------|-----------------------|--------------------|------------------|----------|

5.8.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|---------------------------------|---|
| Licensed Area | | tra_outage | tra_owner_id |
| Outage Number | | tra_outage | tra_outage_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| Planned Start Date | Format DD/MM/YYYY. If this date is before the Report Date and the actual_start_date field is null then display this field in bold text | tra_outage | start_date |
| Planned End Date | Format DD/MM/YYYY If this date is before the Report Date and the actual_end_date field is null then display this field in bold text | tra_outage | end_date |
| RTS Time | Format HH:MI (24 hour clock) | tra_outage | end_date |

| Report | Notes / Transformations | Database Table | Database Column |
|-------------------|------------------------------|----------------|-------------------|
| Actual Start Date | Format DD/MM/YYYY | Tra_outage | Actual_start_date |
| Actual Start Time | Format HH:MI (24 hour clock) | Tra_outage | Actual_start_date |

5.9 Control Room Workload Report

5.9.1 Description

This report shows a summary of the number of outages starting and ending each day in a specified time period. It also shows the details of the outages on a page per day basis.

5.9.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|---|--|--|
| Plan Year | Either the Plan Year or Date Range fields must be entered. Single value | |
| Date Range | Either the Plan Year or Date Range fields must be entered | See section 1.4 for allowable formats |
| Parties | Optional, Multiple | Combination of SO parties and TO parties |
| Include outages of 'Affects operation/study' impact | Checkbox | This includes outages of SO impact 'D' |
| Include outages of No Impact | Checkbox | This includes outages of SO impact 'E' |
| Only include outages with a PFW entered. | Checkbox | |

5.9.3 Data Selection

Only include outages where

- they are standard planned non cancelled outages.
- the main circuit is out of service

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- the outage dates intersect with the entered date range (or the start/end date of the selected plan year).
- they reference one of the selected parties (if any selected).
- the SO Impact is 'A' , 'B' or 'C'
- if the 'Affects operation/study' checkbox is checked then also include SO Impact of 'D'
- if the 'Include outages of No Impact' checkbox is checked then also include SO Impact of 'E'
- The outage must have a time value entered in the PFW_DATE field if the 'Only include outages with a PFW entered' parameter is checked, otherwise include outages regardless of their PFW_DATE value.
- Daily outages will count as starting and ending on each day that they cover.
- If an outage has actual start or end dates entered then these will be used instead of the planned start and end dates.

5.9.4 Data Ordering

The summary list report will display one line per date that the report covers increasing date order.

In the detail pages order the 'Outages Starting' by increasing ISOS time, then APA time and then Circuit Description. Order the 'Outages Returning' by increasing RTS time.

5.9.5 Data Grouping

The detail pages of the report will consist of one page per date with the outages starting and ending on that date grouped on that page.

The two sections of the report will start page numbering at 1.

5.9.6 Summary Report Details

5.9.6.1 Report Layout

| | | | | | | |
|----------|-----|------|---------------|----------|-------------|-------------|
| Eng Week | Day | Date | Outage Starts | With PFW | Outage Ends | Daily Total |
|----------|-----|------|---------------|----------|-------------|-------------|

5.9.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|----------|---------------------------------|----------------|-----------------|
| Eng Week | The week that the 'Date' is in. | N/A | |

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| Report | Notes / Transformations | Database Table | Database Column |
|------------------------|--|----------------|-----------------|
| Day | The day name of the Date e.g. 'Monday' | N/A | |
| Date | The date for the row | N/A | |
| Outage Starts | The number of outages, matching the query parameters, starting on the 'Date' | N/A | |
| Outage with PFW Starts | The number of outages, matching the query parameters but also having a non blank PFW, starting on the 'Date' | N/A | |
| Outage Ends | The number of outages, matching the query parameters, ending on the 'Date' | N/A | |
| Daily Total | The 'Outage Starts' and 'Outage Ends' fields added together | N/A | |

5.9.7 Detailed Report Details

5.9.7.1 Outages Starting Report Layout

| Outage No | Circuit / Description | PER | APA | ISOS | PFW | APA to PFW | ISOS to PFW |
|-----------|-----------------------|-----|-----|------|-----|------------|-------------|
|-----------|-----------------------|-----|-----|------|-----|------------|-------------|

5.9.7.2 Outages Starting Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|---------------------------------|---|
| Outage No | | tra_outage | tra_outage_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| PER | Field displayed in HHMM format (24 hour clock) with a non entered time displayed as a blank value | tra_outage | per_date |
| APA | As above | tra_outage | planned_apa |
| ISOS | Format as above. If the outage has an actual start time entered then this should be displayed otherwise use the planned start date | tra_outage | start_date (for planned start time) or actual_start (for actual start time) |
| PFW | As above | tra_outage | pfw_date |
| APA to PFW | The number of minutes between the APA and PFW times. If either field is blank then this field should display 0. | | |
| ISOS to PFW | The number of minutes between the ISOS and PFW times. If either field is blank then this field should display 0. | | |

5.9.7.3 Outages Ending Report Layout

| Outage No | Circuit / Description | RTS |
|-----------|-----------------------|-----|
|-----------|-----------------------|-----|

5.9.7.4 Outages Ending Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|---------------------------------|---|
| Outage No | | tra_outage | tra_outage_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| RTS | Field displayed in HHMM format (24 hour clock) with a non entered time displayed as a blank value | tra_outage | end_date (for planned end time) or actual_end (for actual end time) |

5.10 Customer Report (aka Report for RECs)

5.10.1 Description

This report lists key information about outages and is intended to be used by the external interested parties.

5.10.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|---------------|---|--|
| Plan Year | Either the Plan Year or Date Range fields must be entered. Single value | |
| Date Range | Either the Plan Year or Date Range fields must be entered | See section 1.4 for allowable formats. |
| Licensed Area | Optional, Multiple | List of TRA_OWNER_IDs displayed to SO users who can pick multiple values. A TO user will not see the list and the parameter will be set to the user's TO licensed area. A Generating Company user will see a list of all TO licensed areas on basic outages where a powerstation within the company appears as an external party. A Powerstation user will see a list of all TO licensed areas on basic outages where the powerstation appears as an external party. A DNO/DCC user will not see the list and the parameter will not be set. |

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| Parameter | Mandatory Optional | Other |
|---|-----------------------|---|
| Generator Owning Company | Optional, Single | List of GENERATING_COMPANY.COMPANY_NAME values – all values in table. The user can pick one of these values. This will reduce the list in the External Party parameter to be just the Powerstations below the company. Field unavailable for Generating Company, Powerstation and DNO/DCC users. |
| External Party | Optional, Multiple | List of EXTERNAL_PARTY.EXTERNAL_PARTY_Ids – all values. If user is a Generating Company user then this list is reduced to the powerstations in he company. If the user is a Powerstation user then this list will only include their Powerstation and this value will be automatically selected. If the user is a DNO/DCC user then this list will only include their DNO/DCC and this value will be automatically selected. |
| All DNOs | Checkbox | If selected will override the values entered in the 'External Party' field above. It is only selectable by SO and TO users. |
| All Powerstations | Checkbox | If selected will override the values entered in the 'External Party' field above. It is only selectable by SO and TO users. |
| Substations | Optional, Multiple | List of SUBSTATION.SUBSTATION_ID and DESCRIPTION. The list will contain all substations on basic outage records which have one or more of the selected external parties associated. The list will not be populated until the External Parties have been selected. |
| Include outages of 'Affects operation/study' impact | Checkbox | This includes outages of SO impact 'D' |
| Include outages of No Impact | Checkbox | This includes outages of SO impact 'E' |
| Outage Type | Mandatory, Single | List of fixed values ' DNO/DCC Only', 'NGT Only', 'All'. |
| Show Work Involved | Checkbox | If the 'Restrict Show Work Involved parameter in Customer Report' system parameter is set to 1 then this field is only selectable by SO, TO and DNO/DCC users, otherwise any user can select it. |

5.10.3 Data Selection

Include standard outages if the 'Outage Type' parameter is either 'NGT Only' or 'All', and DNO outages if the 'Outage Type' parameter is either 'DNO/DCC Only' or 'All'. Do not show TO bookings or Comment entries.

Only display outages where their dates intersect with the entered date range (or the start/end date of the selected plan year). However, for External users, the

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outages which start beyond a user defined (system parameter) date are not displayed, even though date range (of the plan year OR user specified) goes beyond it .

The licensed area must match the parameter (if entered)

If any External Parties are entered in the parameters then the outages must have one or more of these parties attached.

Only include outages which affect a plan year for which the handover date is today or in the past

If the All DNOs or All Powerstation checkboxes are checked then outages with any DNO or Powerstation external parties will be displayed. This overrides the individual External Parties entered in the parameter above.

SO Impact – always include A, B, C in report – also include D and E if the parameters checkboxes are checked.

5.10.4 Data Ordering

Order by Start Date, Outage Number.

5.10.5 Data Grouping

The report will consist of one section per External Party matching the search criteria. Each section will list all of the outages that reference the external party. Therefore an outage can appear in many different parties’ sections. It is also possible that a section will have no outages in which case the report should contain the text ‘No Outages Found’.

Each party’s section will restart at page number 1.

5.10.6 Report Details

5.10.6.1 Report Layout

| Outage No | Circuit / Description | Start / Finish | Week No | Plan Times | OC2 Remarks | ERTS Day, ERTS Night | C / D | Work Involved |
|-----------|-----------------------|----------------|---------|------------|-------------|----------------------|-------|---------------|
|-----------|-----------------------|----------------|---------|------------|-------------|----------------------|-------|---------------|

5.10.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|--|---------------------------------|---|
| Outage No | | tra_outage | tra_outage_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the | tra_outage and /or basic_outage | description and/or additional_description |

| Report | Notes / Transformations | Database Table | Database Column |
|----------------------|--|----------------|---|
| | end with a space between | | |
| Start / Finish | The start date and end date displayed one above the other in DD/MM/YYYY format | tra_outage | start_date, end_date |
| Week No | The start date and end date displayed as week numbers (2 digit numbers) | tra_outage | start_date, end_date |
| Plan Times | Display APA, ISOS, PFW and RTS dates above each other with a label next to each. Use format HHMM (24 hour clock) | tra_outage | planned_apa, start_date, pfw_date, end_date |
| OC2 Remarks | This is the comments associated with the selected external parties | party_link | ext_party_comment |
| ERTS Day, ERTS Night | | tra_outage | erts_day, erts_night |
| C/D | | tra_outage | Continuous |
| Work Involved | Displayed only if the 'Show Work Involved' parameter is selected. | tra_outage | work_involved |

5.11 Pending File Listing

This report is not required – To be covered by General Outage Report

5.12 Changed Outages

This report is not required. Its functionality will be covered by the Changes Report and the Planned Change History Report.

5.13 All Outage Data

This is not required as a separate report. All that was ever used was the download functionality. This will be placed on the General Outage Report replacing its own Planned outage download capability.

5.14 Single Request Outage Report

This report has been combined with the List Request Outage Report (below) as a 'Detailed Print' option

5.15 List Request Outage Report

5.15.1 Description

This report displays a list of request outages. The report can either be run in summary format, which shows the outages one line at a time, in detail format, which displays one request outage per page or as a file download.

5.15.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|------------------|-----------------------|---|
| Request No | Optional | Free text |
| Outage No | Optional | Free text |
| Request Batch No | Optional | Free text |
| Licensed Area | Mandatory | List of TRA_OWNER_IDs displayed to SO users who can pick multiple values. A TO user will not see the list and the parameter will be set to the user's TO licensed area. |
| Date Range | Mandatory | See section 1.4 for allowable formats |
| Lead Planner | Optional | List of users from the TO Lead Planner role and SO Lead Planner role as defined in the system parameters. The user can pick multiple values. |
| Status | Mandatory | List of status values that the user's role can access data at. The user can pick multiple values. |
| Order by | Mandatory | User can pick either 'Request Number' or 'Start Date'. |
| Summary Report | Checkbox | |

5.15.3 Data Ordering

If the user has chosen 'Request Number' order then the request outages are displayed in request number order. If the user has chosen 'Start Date' order then the request outages are displayed in increasing start date order and within this by request number.

5.15.4 Data Grouping

None.

5.15.5 Data Selection

The main query for the report will be based upon the request_outage table. The request outage record can have two proposed date ranges and a window range. Request outage records will be selected for the report one of their date ranges cross the parameter date range.

In the summary report, if more than one date range crosses the parameter date range then the request outage will be selected (and displayed) more than once. The request number will have a suffix indicating which date range is being displayed.

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In addition to the date range checking only include request outages where:

- the tra_owner_id on the linked basic_outage record matches the licensed area parameter (if entered).
- the to_lead_planner or the so_lead_planner match the lead_planner parameter (if entered)
- the request_outage_id matches the Request No parameter (if entered)
- the tra_outage_id matches the Outage No parameter (if entered)
- the batch_upload_seq matches the Request Batch No parameter (if entered)
- the status matches the status_code parameter.

5.15.6 Report Details

5.15.6.1 Summary Report Layout

| Request Number | Exist Start Date | Exist End Date | Outage Number | Circuit / Description | Option Date Start | Option Date End | Option Date Status | Duration | Status |
|----------------|------------------|----------------|---------------|-----------------------|-------------------|-----------------|--------------------|----------|--------|
|----------------|------------------|----------------|---------------|-----------------------|-------------------|-----------------|--------------------|----------|--------|

5.15.6.2 Summary Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|--|--|
| Request Number | | Request_outage | request_outage_id suffixed with either '-1', '-2' or '-w' depending upon which date range is being displayed |
| Exist Start Date | Format DD/MM/YYYY | Tra_outage (linked via tra_outage_id, display blank if no linked record found) | start_date |
| Exist End Date | Format DD/MM/YYYY | As above | end_date |
| Outage Number | | request_outage | proposed_plan_number |
| Circuit / Description | If request_outage.basic_outage_id is not null then use basic_outage.description else use request_outage.description. In either case concatenate request_outage.additional_description on the end with a space between | Basic_outage and / or request_outage | description and additional_description |
| Option Date | Format DD/MM/YYYY | Request_outage | Either |

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| Report | Notes / Transformations | Database Table | Database Column |
|--------------------|-------------------------|----------------|---|
| Start | | | proposed_start1, proposed_start2 or window_start |
| Option Date End | Format DD/MM/YYYY | Request_outage | Either proposed_end1, proposed_end2 or window_start |
| Option Date Status | | Request_outage | Either selected_date1 or selected_date2 (or blank for the window dates) |
| Duration | | Request_outage | duration |
| Status | | Request_outage | status |

5.15.6.3 Detail Report Layout

| Request Number | | Old Circuit / Description | | | | | Outage Number | | |
|--------------------|------------|---------------------------|----------|------------------|-----------------|---------------|---------------|--------------------|--|
| | | New Circuit / Description | | | | | | | |
| Current Plan Dates | Duration | Proposed Dates 1 | Selected | Proposed Dates 2 | Selected | Window Dates | Existing ERTS | Proposed ERTS | |
| Work Involved | | | | | | | | | |
| SO Parties | TO Parties | | | TO Lead Planner | SO Lead Planner | Status | | | |
| | | Eng / TO Comments | | SO Comments | | Risk Comments | | Cost Risk Comments | |
| External Party | | External Party Comments | | | | | | | |

5.15.6.4 Detail Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|---------------------------|---|--------------------------------------|--|
| Request Number | | Request_outage | request_outage_id |
| Old Circuit / Description | If the request outage is an addition (i.e. if tra_outage_id is null then this field should be blank. Otherwise if basic_outage_id on the linked tra_outage record is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | Basic_outage and / or request_outage | description and additional_description |
| New Circuit / Description | If request_outage.basic_outage_id is not null then use basic_outage.description else use | Basic_outage and / or request_outage | description and additional_description |

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| Report | Notes / Transformations | Database Table | Database Column |
|--------------------|--|--|--------------------------------|
| | request_outage.description. In either case concatenate request_outage.additional_description on the end with a space between | | |
| Outage Number | | request_outage | proposed_plan_number |
| Current Plan Dates | Start date above end date. Format DD/MM/YYYY | Tra_outage (linked via tra_outage_id, display blank if no linked record found) | start_date, end_date |
| Duration | | request_outage | Duration |
| Proposed Dates 1 | Start date above end date. Format DD/MM/YYYY | request_outage | Proposed_start1, proposed_end1 |
| Selected | | request_outage | Selected_Date1 |
| Proposed Dates 2 | Start date above end date. Format DD/MM/YYYY | request_outage | Proposed_start2, proposed_end3 |
| Selected | | request_outage | Selected_Date1 |
| Window Dates | Start date above end date. Format DD/MM/YYYY | request_outage | Window_start, window_end |
| Existing ERTS | Day value above night value | tra_outage | Erts_day, erts_night |
| Proposed ERTS | Day value above night value | request_outage | Erts_day, erts_night |
| Work Involved | | request_outage | Work_involved |
| SO Parties | Multiple values listed down the page | party_link where party_type = SO and linked_table_id = Request | party_id |
| TO Parties | Multiple values listed down the page | party_link where party_type = TO and linked_table_id = Request | party_id |
| TO Lead Planner | Format of surname, firstname | Toga_user linked via TO_lead_planner | Surname, firstname |
| SO Lead Planner | Format of surname, firstname | Toga_user linked via SO_lead_planner | Surname, firstname |
| Status | | Request_outage | Status |
| Eng / TO Comments | | Request_outage | TO_comments |
| SO Comments | | Request_outage | SO_comments |
| Risk Comments | | Request_outage | Risk |
| Cost Risk Comments | Only display this field if the user has either View Cost Risk or Edit Cost | Request_outage | Cost_risk_text |

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| Report | Notes / Transformations | Database Table | Database Column |
|--|---|--|------------------------------|
| | Risk security permission. | | |
| External Party / External Party Comments | A list down the page of all the external parties on the outage. To the right of each party is their comment, which could span multiple lines. <i>Validation:</i> Users should not be able to view external party comments unless they are authorised to view this data. (1570) | party_link where party_type = External and linked_table_id = request_outage_id | party_id & ext_party_comment |

5.15.7 Request Outage Download File

The format is all fields in a comma/semicolon separated format.

5.16 Availability / Reliability Report

5.16.1 Description

This report shows availability of equipment during a specified period.

There are four types of report available – by Outage, Nasaps with Outages and a Summary by circuit type.

Where a Nasap has been commissioned or decommissioned during the period selected, availability will be based upon those commissioning dates.

Outages selected can be restricted to only those where they have been entered within the Unavailability Notice period (i.e. at short notice), but this will only affect the Outages and the Nasaps with Outages reports; the Summary reports is not affected.

Validation: Should only list SO confidential outages to the user if the user has view/ edit TOPAM SO confidential outages:. (1490)

5.16.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|-------------|-----------------------|--|
| Report Type | Mandatory, single | Fixed values of 'Summary', 'Assets with Outages', 'Outages'. |
| Plan Year | One of plan year or | |

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| Parameter | Mandatory Optional | Other |
|-----------------------|--|---|
| | date range should be entered | |
| Date Range | One of plan year or date range should be entered | See section 1.4 for allowable formats |
| Asset Owner | Mandatory, Single | List of EQUIPMENT_OWNERS |
| Parties | Optional, single | List of SO_PARTY_IDS and TO_PARTY_IDS displayed to SO users who can pick multiple values. A TO user will only see TO parties for their own licensed area. Do not enable for report type = 'Summary' |
| Round up date | Mandatory | Default to today's date. Can be set to any date |
| Unavailability Notice | Mandatory | Default to value defined in system parameter. Can be set to any positive number |
| Work Type | Optional, multiple | List of DCD_ID values |
| Assets | Optional | Free text field. Report will match on an many characters that have been entered. |
| Report Restrictions | Mandatory, single | Fixed values of 'No restriction', 'Short Notice'. |
| Outages to include | Mandatory, single | Fixed values of 'Out of Service', 'Downrated Only'. |
| Fault outages only | Checkbox | |
| Sorted by | Mandatory, single | Fixed values of 'NASAP', 'Outage Start Date'. |
| Download File | Checkbox | |

5.16.3 Data Ordering

In the 'Outage' report one line is displayed per asset/outage combination. The data is either sorted by increasing asset id / outage number or by increasing Outage start date order. An outage will appear with each asset affected by it and may therefore appear many times in the list.

The 'Assets with Outages' reports lists the data in increasing asset id order.

The summary section has a fixed data format.

5.16.4 Data Grouping

None.

5.16.5 Data Selection

The main query for the report will be based upon the transmission outage (tra_outage) table.

Include planned outage records where:

- Either the dates for the outage intersect with the parameter date range entered or the start and end dates for the plan year entered
- The outage status is not cancelled and not 'Not Taken' or 'TBA'.
- The outage references one or more assets starting with the entered parameter (if any characters entered)
- The asset is in commission during the date range (or plan year) selected. The range of the planned year is the earliest start date for the plan year until the latest end date for the Licensed areas selected.
- The asset(s) match the selected equipment owner
- The outage references one of the selected work types.
- The outage references one of the selected parties (ignore party selection for summary report)
- If the Report Restrictions parameter is set to Short Notice then only include outages where the notice period is less than the Unavailability Notice value.
- If Outages to Include is set to 'Out of Service' then only select outages which are out of service. If the Outages to Include is set to Downrated Only then only select outages which have a value entered in the Rating Adjustment field.
- If the Fault Outages only checkbox is checked then only include fault outages.
- If the round up date is before today then use the history of the outage as at the round up date

5.16.6 Outage Report Details

5.16.6.1 Outage Report Detail Report Layout

| NASA P | Description | Commissioned / Decommissioned | Outage Number | Short Notice | Actual | Start | End | Outage Type | Period Duration | Total Duration |
|--------|-------------|-------------------------------|---------------|--------------|--------|-------|-----|-------------|-----------------|----------------|
|--------|-------------|-------------------------------|---------------|--------------|--------|-------|-----|-------------|-----------------|----------------|

5.16.6.2 Outage Report Field to Database Field Mapping

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| Report | Notes / Transformations | Database Table | Database Column |
|-------------------------------|--|-------------------------------|------------------------------------|
| NASAP | | asset_out | asset_id |
| Description | | asset (linked by asset_id) | description |
| Commissioned / Decommissioned | Format DD/MM/YYYY HH:MI (24 hour clock) | asset (linked by asset_id) | commission_date, decommission_date |
| Outage Number | | tra_outage | tra_outage_id |
| Short Notice | Calculated field – If the difference between the entry into the plan and the planned start date is less than the Unavailability Period then this field should contain 'Y', otherwise 'N'. | | |
| Actual | Calculated field – If actual start and end dates are being displayed then this field should contain 'Y' otherwise 'N' | | |
| Start | If the round up date is today and an actual start date exists then display this, otherwise display the planned start date as at the round up date | tra_outage_hist or tra_outage | start_date or actual_start_date |
| End | If the round up date is today and an actual end date exists then display this, otherwise display the planned end date as at the round up date | tra_outage_hist or tra_outage | end_date or actual_end_date |
| Outage Type | | tra_outage | continuous |
| Period Duration | Calculated field – The length of the outage that intersects with the report date range and the asset was commissioned. Calculate the time as per the Total duration below. | | |
| Total Duration | <p>Calculated field – This is the total number of hours of the outage covering time that the asset was commissioned displayed in days.</p> <p>Use actual start and end dates/time if available. If not available use the planned start and end dates/times. If no start time assume 0900. If no end time assume 1700. Also assume 0900 and 1700 for the internal start/end times for daily outages spanning more than one day.</p> <p>If the outage is a downrated outage then the Rating Adjustment should be used in the calculation, e.g. if a 10 day outage has a 30% Rating Adjustment then the outage can be considered to be 3 days long.</p> | | |

5.16.6.3 Assets with Outages Report Detail Report Layout

| NASAP | Description | No of Outages | Duration | Availability | Unplanned Availability |
|-------|-------------|---------------|----------|--------------|------------------------|
|-------|-------------|---------------|----------|--------------|------------------------|

5.16.6.4 Assets with Outages Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|------------------------|---|----------------------------|-----------------|
| NASAP | | asset_out | asset_id |
| Description | | asset (linked by asset_id) | description |
| No of Outages | Calculated field – This is a count of the number of outages for the asset | | |
| Duration | Calculated field – This is the total duration of outages on the asset. This is not simply a sum of the outage durations but a calculation of the period covered by the outages (i.e. do not double count overlapping outages) | | |
| Availability | Calculated field – The percentage of the time that the asset was commissioned within the duration of the report that the asset was not on outage. | | |
| Unplanned Availability | Calculated field – The percentage of the time that the asset was commissioned within the duration of the report that the asset was on a short notice outage. | | |

5.16.6.5 Summary Report Detail Report Layout

| Circuits | Total circuit available days | Availability | Unplanned Availability |
|----------|------------------------------|--------------|------------------------|
|----------|------------------------------|--------------|------------------------|

5.16.6.6 Summary Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|------------------------------|--|----------------|-----------------|
| Circuits | Fixed rows for : Total SGT's (use the NASAP code identification as in the current TOPAM availability report) Total MIS & QBs (use NASAP code definition) TOTAL System (this is the total of the above 2 rows) Total Compensation (use NASAP code definition) | | |
| Total circuit available days | Total of the days that circuits of this categorisation were in commission during the report timescale | | |
| Availability | Calculated field – This is a total of the time that the assets were not on outage | | |

| Report | Notes / Transformations | Database Table | Database Column |
|------------------------|---|----------------|-----------------|
| | compared with the overall report time. | | |
| Unplanned Availability | Calculated field – This is a total of the time that the assets were not on short notice outage compared with the overall report time. | | |

5.17 Average Circuit Unreliability Report

5.17.1 Description

This report calculates Average Circuit Unreliability due to outages taken to repair plant. The report uses the equipment group codes to identify when a repair outage is taken. The duration of each outage is calculated for the date range specified in minutes.

Outages taken for repair purposes are those outages booked within the plan year for which the work content is primarily for the purpose of repairing a plant defect.

The report consists of three sections. The first lists the relevant repair outages in asset order, the second lists all of the assets and shows the effect of the repair outages on the reliability of the circuit and the third shows the average circuit unreliability by the equipment group.

5.17.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|-----------------|--|--|
| Plan Year | One of plan year or date range should be entered | |
| Date Range | One of plan year or date range should be entered | See section 1.4 for allowable formats |
| Equipment Group | Optional, multiple | List of Plant Equipment Groups from the Plant_equipment_group table. |
| Asset Owner | Mandatory, Single | List of EQUIPMENT_OWNERS |
| Round up date | Mandatory | Defaults to the current system date. Can be changed to any date. |
| Download File | Checkbox | |

5.17.3 Data Ordering

The first section lists the repair outages in increasing asset id, outage number order. If an outage affects more than one asset then it will appear multiple times in this list.

The second section lists the assets, affected by repair outages, in increasing Circuit/Description order.

The third section lists the equipment groups in increasing name order.

5.17.4 Data Grouping

None.

5.17.5 Data Selection

The main query for the report will be based upon the transmission outage (tra_outage) table.

Include planned outage records where:

- the dates for the outage intersect with the plan year for the TO or the dates intersect the parameter date range entered
- the outage has a plant equipment group entered and it matches one of the parameter groups (if any entered)
- the outage is not cancelled and not 'Not Taken' or 'TBA'
- the main circuit on the outage is out of service
- if the round up date is today and the outage has actual dates entered then the actual dates are used in the selection criteria
- an asset on the outage must have the specified equipment owner
- If the user enters a round up date before today then the history from this date should be used to determine the outage data used.

5.17.6 Report Details

5.17.6.1 Repair Outage Report Layout

| NAS AP Code | Circuit / Description | Outage Number | Equipment Group | Reference | Work Involved | Start Date | Start Time | End Date | End Time | Time Out (Mins) | Adjusted Time Out (Mins) |
|-------------|-----------------------|---------------|-----------------|-----------|---------------|------------|------------|----------|----------|-----------------|--------------------------|
|-------------|-----------------------|---------------|-----------------|-----------|---------------|------------|------------|----------|----------|-----------------|--------------------------|

5.17.6.2 Repair Outage Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|--------|-------------------------|----------------|-----------------|
|--------|-------------------------|----------------|-----------------|

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| Report | Notes / Transformations | Database Table | Database Column |
|--------------------------|---|----------------|---------------------------------|
| NASAP Code | | Asset_out | Asset_id |
| Circuit / Description | | Asset | Description |
| Outage Number | | Tra_outage | Tra_outage_id |
| Equipment Group | | Tra_outage | Plant_equipment_group |
| Reference | | Tra_outage | Fads_number |
| Work Involved | | Tra_outage | Work_involved |
| Start Date | Format DD/MM/YYYY. If round up date is today and the actual start date has been entered then use the actual start date, otherwise use the planned start date | tra_outage | start_date or actual_start_date |
| Start Time | Format HH:MI (24 hour clock) If round up date is today and the actual start time has been entered then use the actual start time, otherwise use the planned start time | | start_date or actual_start_date |
| End Date | Format DD/MM/YYYY If round up date is today and the actual end date has been entered then use the actual end date, otherwise use the planned end date | tra_outage | End_date or actual_end_date |
| End Time | Format HH:MI (24 hour clock) If round up date is today and the actual end time has been entered then use the actual end time, otherwise use the planned end time | tra_outage | End_date or actual_end_date |
| Time Out (Mins) | Calculated – The total number of minutes that the outage covers within the report range. | | |
| Adjusted Time Out (Mins) | Calculated – The total number of minutes that this outage covers but not recounting any time that the asset was out under another outage | | |

5.17.6.3 Circuit Unreliability by NASAP Code Report Layout

| NASAP Code | Circuit / Description | Equipment Group | Repair Time Out (Mins) | Average Circuit Unreliability (%) |
|------------|-----------------------|-----------------|------------------------|-----------------------------------|
|------------|-----------------------|-----------------|------------------------|-----------------------------------|

5.17.6.4 Circuit Unreliability by NASAP Code Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|--------|-------------------------|----------------|-----------------|
| NASAP | | Asset_out | Asset_id |

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| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------------------|---|----------------|-----------------------|
| Code | | | |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | Asset | Description |
| Equipment Group | | Tra_outage | Plant_equipment_group |
| Repair Time Out (Mins) | Calculated – The total number of minutes that the asset was under fault outage within the report period | | |
| Average Circuit Unreliability (%) | Calculated – the total repair time out divided by the total length of time that the asset is in commission within the report period (max upto 5 decimal places) | | |

5.17.6.5 Circuit Unreliability by Equipment Group Report Layout

| Equipment Group | Average Circuit Unreliability (%) |
|-----------------|-----------------------------------|
| | |
| | Total |

5.17.6.6 Circuit Unreliability by Equipment Group Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------------------|---|-----------------------|-----------------|
| Equipment Group | | Plant_equipment_group | Description |
| Average Circuit Unreliability (%) | Calculated – the total time that the circuits were on repair outage for this equipment group divided by the total time that all circuits for the equipment owner were in commission during the report period. (max upto 5 decimal places) | | |
| Total | Sum of the Average Circuit Unreliability values | | |

5.17.6.7 Download File Format

The current ACU report creates three files (one for each report section), delimited with the special delimiting characters. Should this new replacement report give the same output?

5.18 Actual Outages Taken (NOC)

Currently being assessed whether required or not. Due to this ongoing assessment the report will not be developed as part of TOGA Phase 1

5.19 TOPAM-MIMS Download Report**5.19.1 Description**

National Grid have specified that this download is not required. The Summary Basic Outage Download Report will be developed in its place.

5.20 Number & Average Duration of Outages Report

Currently being assessed whether required or not. Due to this ongoing assessment the report will not be developed as part of TOGA Phase 1

5.21 Monitoring Report**5.21.1 Description**

This report show outages and the changes made to them in terms of start and end date, and the notice period of each.

A summary report and a detail report are available, also the facility to download the monitoring detail information to a local file.

The following types of changes are included in the reports:

- Bookings that have had their date changed to another date.
- Deletion from plan.
- Added to plan.

5.21.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|------------|--|---------------------------------------|
| Plan Year | One of plan year or date range should be entered | |
| Date Range | One of plan year or date range | See section 1.4 for allowable formats |

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| Parameter | Mandatory Optional | Other |
|---|-----------------------|--|
| | should be entered | |
| Outage Owner | Mandatory, Single | List of EQUIPMENT_OWNERS |
| Change Category | Optional, Multiple | List of CHANGE_CODE_ID values |
| Requesting Party | Optional, Multiple | A combination of: a) TOPAM_SO_PARTY.SO_PARTY_ID – all values b) TOPAM_TO_PARTY.TO_PARTY_ID – all values where TRA_OWNER_ID = basic_outage.TRA_OWNER_ID (if a TO user otherwise all values), c) External parties for the outage TO's licensed area |
| Parties | Optional, Multiple | List of SO_PARTY_IDs and TO_PARTY_IDs displayed to SO users who can pick multiple values. A TO user will only see TO parties for their own licensed area. |
| Include outages of 'Affects operation/study' impact | Checkbox | This includes outages of SO impact 'D' |
| Include outages of No Impact | Checkbox | This includes outages of SO impact 'E' |
| Assets | Optional | Free text field. Report will match on as many characters that have been entered. |
| Service | Mandatory | List – fixed values 'In Service Only' and 'Out of Service Only' |
| Change Categories Only | Checkbox | |
| Changes in Period | Checkbox | |
| Report Type | Mandatory | List – fixed values 'Detail', 'Summary'. |
| Download File | Checkbox | |

5.21.3 Data Ordering

The detail report lists the outages in increasing outage number order. If there have been more than one change to an outage then the changes are listed in increasing date of change order.

The summary section lists the change categories in increasing alphabetical order.

5.21.4 Data Grouping

None.

5.21.5 Data Selection

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The main query for the report will be based upon the transmission outage change history (tra_outage_history) table.

Include planned outage records where:

- If the 'Changes in Period' flag is checked then the change date must be within the report period (either the entered date range or the start/end date range for the selected plan year).
- If the 'Changes in Period' flag is not checked then the dates for the outage must intersect with the report period (either the parameter date range or the start/end date range for the selected plan year) and the change must affect the report period.
- the change is either a change of start date, change of end date, a status change to or from Not Taken or 'TBA', a status change to 'Cancelled' or an addition (i.e. the first history record for the outage)
- the outage change must be for the change category (if any entered)
- the outage change must be for the requesting party (if any entered)
- the outage must reference one of the parties (if any entered)
- the outage must reference one or more assets starting with the entered character(s) (if entered)
- the outage must have the specified equipment owner
- the SO impact must be either A, B, or C. Additionally can be D or E if the relevant checkboxes are selected.

5.21.6 Report Details

5.21.6.1 Monitoring Detail Report Layout

| Outage Number | Circuit / Description | Change Date | Old Dates | New Dates | Days Added | Change Type | Notice | Requesting Party | Change Code | Change Description |
|---------------|-----------------------|-------------|-----------|-----------|------------|-------------|--------|------------------|-------------|--------------------|
|---------------|-----------------------|-------------|-----------|-----------|------------|-------------|--------|------------------|-------------|--------------------|

5.21.6.2 Monitoring Detail Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|---------------------------------|---|
| Outage Number | | Tra_outage_history | Tra_outage_id |
| Circuit / Description | If tra_outage_history.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |

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| Report | Notes / Transformations | Database Table | Database Column |
|--------------------|--|----------------------------------|-------------------------|
| Change Date | Format DD/MM/YYYY | Tra_outage_history | Change_date |
| Old Dates | Format 'DD/MM/YYYY – DD/MM/YYYY' Leave blank if no previous history record | (previous) Tra_outage_history | Start_date, end_date |
| New Dates | Format 'DD/MM/YYYY – DD/MM/YYYY' Or 'CANC' if the outage is now cancelled Or 'Not Taken' if the outage is now not taken OR 'TBA' if the outage is now 'TBA' | Tra_outage_history | Start_date, end_date |
| Days Added | Calculated field – Difference between the old length of the outage and the new length. Will be negative for a shortened or cancelled outage, | | |
| Change Type | Calculated Value: ADD (New), DEL (Cancelled), DNT (Not Taken), TBA (TBA) CHB (Change Both Dates), CHS (Change Start Date), CHE (Change End Date) | | |
| Notice | Calculated field – If the start date has changed then this is the number of days difference between the change date and the lesser of the old and new start dates Otherwise if the end date has changed then this is the number of days difference between the change date and the lesser of the old and new end dates | | |
| Requesting Party | | Tra_outage_history | Requesting_party |
| Change Code | | Tra_outage_history | Change_code_id |
| Change Description | | Tra_outage_history | Change_description |

5.21.6.3 Monitoring Summary Report Layout

| Change Category | Category Description | <1d | 1d | 1-7d | 8-14d | 15-28d | 5-7w | 8-13w | >13w | 0-28d Total | >29d Total | Total |
|-----------------|----------------------|-----|----|------|-------|--------|------|-------|------|-------------|------------|-------|
| | | | | | | | | | | | | |

5.21.6.4 Monitoring Summary Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------|---|----------------|-----------------|
| Change Category | If the 'Change Categories Only' checkbox is unchecked then there should be an additional row for 'Not specified' for the changes which do not have a change | Change_code | Change_code_id |

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| Report | Notes / Transformations | Database Table | Database Column |
|----------------------|--|----------------|-----------------|
| | category entered. | | |
| Category Description | | Change_code | Description |
| Non 'Total' fields | Calculated fields – These fields are counts of the number of outage changes grouped by the notice of change. The total of each field should be displayed at the foot of the column. | | |
| 'Total fields | Calculated fields – Totals of the above fields grouped according to the headings. The total of each field should be displayed at the foot of the column. | | |

5.21.6.5 Monitoring Detail Download Format

This data is exactly as in the monitoring detail report. In the current MONC2 report it uses the special delimiting characters. Should it now use comma separation instead? Use comma separation.

5.22 Outage Changes Download**5.22.1 Description**

This process will download planned outage and request information in a flat delimited file, which could then be uploaded into the Transmission Owners own outage database. The file will contain planned outage records that have been added or changed since the entered parameter date and also request records that have been added or had their status changed since the entered parameter date but which have not yet been accepted into the plan.

5.22.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|-----------------------|-----------------------|---|
| Plan Year | Mandatory | |
| Licensed Area | Optional, multiple | List of TRA_OWNER_IDs displayed to SO users who can pick multiple values. A TO user will not see the list and the parameter will be set to the user's TO licensed area. |
| Include Changes Since | Mandatory | This field will default to the date and time that the user last ran this download |
| Include All changes | Optional, | If checked, show all changes irrespective of plan year. (2111) |

5.22.3 Data Ordering

Increasing outage number order.

5.22.4 Data Grouping

None.

5.22.5 Data Selection

The main query for the report will be based upon a union between the transmission outage change history (tra_outage_history) table and request outage (request_outage) table.

Include the most recent planned outage history records where:

- the dates for the outage intersect with the plan year for the TO
- the outage is for the licensed area (if entered)
- a planned outage history record exists with a change date between the Include Changes Since date and the system date.

Include request outages where:

- the dates for the outage intersect with the plan year for the TO
- the outage is for the licensed area (if entered)
- the status_last_updated_date is between the Include Changes Since date and the system date
- the status is not 'In Plan'.

Validation: Should only list SO confidential outages to the user if the user has view/ edit TOPAM SO confidential outages:. (1490)

5.22.5.1 Download File Format

The following fields are produced with each field stored in double quotes and separated by a comma.

5.22.5.2 Download File Field to Database Field Mapping

The planned outage records consist of the following data values:

| Report | Notes / Transformations | Database Table | Database Column |
|---------------|-------------------------|----------------|-----------------|
| Outage type | 'Planned' | | |
| Outage status | | tra_outage | status |
| Request | Leave blank | | |

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| Report | Notes / Transformations | Database Table | Database Column |
|-------------------------------|---|----------------|------------------------|
| Status | | | |
| Batch Upload Sequence number | Leave blank | | |
| Additional outage description | | tra_outage | additional_description |
| Outage number | | tra_outage | tra_outage_id |
| Basic Reference | | tra_outage | basic_outage_id |
| ERTS day | | tra_outage | erts_day |
| ERTS night | | tra_outage | erts_night |
| Daily / Continuous | | tra_outage | continuous |
| Service | Display value 'IN' for 1 or 'OUT' for 0 | tra_outage | service |
| SO comments | | tra_outage | so_comments |
| SO Person | | tra_outage | so_lead_planner |
| Agreed Start date/time | Format DD/MM/YYYY HH:MI (24 hour clock) | tra_outage | start_date |
| Agreed End date/time | Format DD/MM/YYYY HH:MI (24 hour clock) | tra_outage | end_date |
| Operational Comments | | tra_outage | operational_remarks |

The request outage records consist of the following data values:

| Report | Notes / Transformations | Database Table | Database Column |
|-------------------------------|-------------------------|---|------------------------|
| Outage type | 'Request' | | |
| Outage status | | tra_outage (linked via tra_outage_id (if exists)) | status |
| Request Status | Leave blank | request_outage | status_code |
| Batch Upload Sequence number | Leave blank | request_outage | batch_upload_seq |
| Additional outage description | | request_outage | additional_description |
| Outage number | | request_outage | tra_outage_id |
| Basic | | request_outage | basic_outage_id |

| Report | Notes / Transformations | Database Table | Database Column |
|------------------------|---|----------------|---------------------|
| Reference | | | |
| ERTS day | | request_outage | erts_day |
| ERTS night | | request_outage | erts_night |
| Daily / Continuous | | request_outage | continuous |
| Service | Display value 'IN' for 1 or 'OUT' for 0 | request_outage | service |
| SO comments | | request_outage | so_comments |
| SO Person | | request_outage | so_lead_planner |
| Agreed Start date/time | This value will be either proposed_start1 or proposed_start2 depending upon which has the selected flag = 'Y'. If dates have the selected flag set to '?' then this value will be the proposed_start2, if not null, otherwise it will be the proposed_start1. | request_outage | |
| Agreed End date/time | This value will be either proposed_end1 or proposed_end2 depending upon which has the selected flag = 'Y'. If dates have the selected flag set to '?' then this value will be the proposed_end2, if not null, otherwise it will be the proposed_end1. | request_outage | |
| Operational Comments | | request_outage | operational_remarks |

5.23 Accept Request into Pending

5.23.1 Brief Description

The Acceptance into Pending processing creates a pending outage from the request outage. There are a number of different ways to invoke the acceptance processing:

1. By pressing the Accept into Pending button from the standard request outage list
2. By pressing the Accept into Pending button from the updateable list
3. By changing the status of a request outage to 'Pending' from the updateable list.
4. By pressing the Accept button while editing a request outage in 10210EditRequestOutage.
5. By changing the status of a request outage to 'Planned' while editing a request outage in 10210EditRequestOutage.

If the acceptance process is called from a list then it should be called once for each outage being accepted.

5.23.2 Validation

The request outage must have a non closed status.

The request outage must have one set of proposed dates selected and the other deselected (the setting of these fields will be automatically performed if the Acceptance process is being called from the standard request outage list).

Where two proposed start/ end dates have been entered for a request:

- a) If, in the list screen only one of them has been checked ('Y') for acceptance, then the request should be accepted, the selected flag for the date range on the checked row set to 'Y' and the other one to 'N'
- b) An outage should not be accepted in pending unless only one item is selected with Y. (1206).

If the request outage is flagged as a risk and has not got the mandatory risk information entered then a warning message will be displayed. The acceptance will also be prevented for the outage if the 'Prevent outage acceptance due to missing risk information' system parameter is set.

If the freeze date, for the licensed area, has passed for any of the plan years affected by the request outage and the request outage does not have a change code or a change description entered then an error message will be displayed and the acceptance of the outages will fail.

5.23.3 Processing

A new pending outage record will be created using the following field mapping.

| Pending Outage Field | Screen Field Name | Populated from/Initial Value |
|--|---------------------|--|
| tra_outage.tra_outage_id | Outage number | request_outage.tra_outage_id if entered otherwise request_outage.proposed_plan_number |
| tra_outage.pending | N/A | 1 |
| tra_outage.outage_type | Type | request_outage.outage_type |
| tra_outage.status | Status | 'Requestor' |
| tra_outage.current_request_outage_id | Request No | request_outage.request_outage_id |
| tra_outage.plan_year | Plan Year | request_outage.plan_year |
| tra_outage.basic_outage_id | Basic Outage Ref | request_outage.basic_outage_id |
| If the request_outage.basic_outage_ref field is null then populate this field from request_outage.description otherwise do not populate. | Circuit/Description | If the planned outage.basic_outage_ref field is null then populate this field from tra_outage.description otherwise do not populate. |
| additional_comment | Additional Comment | request_outage.additional_comment |

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| Pending Outage Field | Screen Field Name | Populated from/Initial Value |
|---|---|--|
| tra_outage.fault | Fault | request_outage.fault |
| tra_outage.fault_type | Fault Type | request_outage.fault_type |
| tra_outage.work_involved | Work involved | request_outage.work_involved |
| tra_outage.erts_day and tra_outage.erts_hours_day | ERTS day (both displayed and numerical values) | request_outage.erts_day and request_outage.erts_hours_day |
| tra_outage.erts_night and tra_outage.erts_hours_night | ERTS night (both displayed and numerical values) | request_outage.erts_night and request_outage.erts_hours_night |
| tra_outage.continuous | C/D | request_outage.continuous |
| tra_outage.service | In Service | request_outage.service |
| tra_outage.to_significance | To significance | request_outage.to_significance |
| tra_outage.tra_owner_comm. | Eng/TO Comments | request_outage.to_comments |
| tra_outage.availability | Rating Adjustment | tra_outage.availability |
| dcd_out | Work type | all values from dcd_request for the request_outage_id |
| tra_outage.per_date | PER | null |
| tra_outage.planned_apa | APA | request_outage.planned_apa Set the date portion to the selected start date |
| tra_outage.pfw_date | PFW | request_outage.pfw_date Set the date portion to the selected start date |
| tra_outage.start_date | Planned start | request_outage.start_date |
| tra_outage.end_date | Planned end | request_outage.end_date |
| tra_outage.to_lead_planner | TO Lead planner | Current user's user_name (if a TO user) |
| tra_outage.requesting_party | Requesting Party | Current user's party (if a TO user) |
| tra_outage.change_descriptio n | Change description | request_outage.change_descript ion |
| tra_outage.change_code_id | Change code | tra_outage.change_code_id |
| tra_outage.so_comment | SO comments | request_outage.so_comment |
| tra_outage.gbso_year_comm. | Initial Placement Comments | request_outage.so_comment |
| tra_outage.operational_remar ks | Operational Remarks | request_outage.operational_remar ks |
| tra_outage.winter_erts_risk | Winter ERTS risk | request_outage.winter_erts_risk |
| tra_outage.cost_risk | Cost Risk | request_outage.cost_risk |
| tra_outage.so_impact_id | SO Impact | request_outage.so_impact_id |
| tra_outage.demand_at_risk | Demand at Risk | request_outage.demand_at_risk |
| tra_outage.nationally_secure | nationally secure | request_outage.nationally_secur e |
| tra_outage.locally_secure | locally secure | request_outage.locally_secure |
| tra_outage.tra_owner | TO | request_outage.tra_owner |
| tra_outage.so_lead_planner | so lead planner | request_outage.so_lead_planner |
| tra_outage.local_risk, risk, winter_erts_comment, tpso_issues, outage_justification, mitigating_actions, decision, inweek_decision, cost_risk_text, strategy, | All the fields from the Risk Information screen | request_outage.local_risk, risk, winter_erts_comment, tpso_issues, outage_justification, mitigating_actions, decision, inweek_decision, cost_risk_text, strategy, osg_actions, cost_week, pct_cost_chance, |

| Pending Outage Field | Screen Field Name | Populated from/Initial Value |
|--|-------------------|---|
| osg_actions, cost_week, pct_cost_chance, central_forecast, out_turn, cost_risk_status, cost_risk_lead_planner. | | central_forecast, out_turn, cost_risk_status, cost_risk_lead_planner. |

In addition the TO parties, SO parties, external parties, external party comments and free codes are copied from the request outage record. When the parties are added to the pending outage the added_via_basic_outage field in the party_link table should be set to the same values as the current links from the request outage.

All other fields are set to null.

The status of the accepted request outages will be updated to 'Pending' and the current system date/time is stored in the 'last time the status was changed' field.

5.24 Fasttrack Request into Plan

5.24.1 Brief Description

The Fasttrack processing creates (or updates) a planned outage directly from a request outage, without the need to go through the Pending outage process. There are a number of different ways to invoke the fasttrack processing:

1. By pressing the Fasttrack button from the standard request outage list
2. By pressing the Fasttrack button from the updateable list
3. By changing the status of a request outage to 'Planned' from the updateable list.
4. By changing the status of a request outage to 'Planned' while editing a request outage in 10210EditRequestOutage.

If the fasttrack process is called from a list then it should be called once for each outage being accepted.

5.24.2 Validation

The request outage must have a non closed status (as defined by the Status Maintenance screen).

The request outage must have one set of proposed dates selected and the other deselected (the setting of these fields will be automatically performed if the Acceptance process is being called from the standard request outage list).

If the request outage is flagged as a risk and has not got the mandatory risk information entered then a warning message will be displayed. The acceptance

will also be prevented for the outage if the 'Prevent outage acceptance due to missing risk information' system parameter is set.

If outage links exist for the planned outage number and the selected set of proposed request dates infringe one or more of the links then a warning message is displayed stating the outage numbers for the links in violation.

If the freeze date, for the licensed area, has passed for any of the plan years affected by the request outage and the request outage does not have a change code or a change description entered then an error message will be displayed and the acceptance of the outages will fail.

5.24.3 Processing

If the request outage is an 'addition' then a new planned outage record will be created. The mapping will be identical to that used to create a pending outage (in the Accept Request into Pending process 5.23.3) except for the following changes:

| Planned Outage Field | Screen Field Name | Populated from/Initial Value |
|--------------------------------------|--------------------|------------------------------|
| tra_outage.pending | | 0 |
| tra_outage.status | | 'Planned' |
| tra_outage.current_request_outage_id | Request No | null |
| tra_outage.change_description | Change description | null |
| tra_outage.change_code_id | Change code | null |

If the request outage is an 'update' then the fields in the planned outage that differ from those in the request outage table should be updated. When updating the planned outage the TO Comments and SO Comments should not be copied from the request outage.

If the request outage is a 'cancel' outage then set the status of the associated planned outage to 'Cancelled'.

When the planned outage record is created or updated then a history record will be created with the following information:

| History table. field | Populated from |
|---------------------------------------|--|
| tra_outage_history.tra_outage_id | tra_outage.tra_outage_id |
| tra_outage_history.change_description | request_outage.change_description |
| tra_outage_history.change_code_id | request_outage.change_code_id |
| tra_outage_history.change_user | current user id |
| tra_outage_history.change_date | current system date |
| tra_outage_history.requesting_party | request_outage.requesting_party |
| tra_outage_history.plan_year | request_outage.plan_year |
| tra_outage_history.basic_outage_id | request_outage.basic_outage_id |
| tra_outage_history.description | tra_outage.description (will be null if basic_outage_id is not null) |

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| History table. field | Populated from |
|---------------------------------|---|
| tra_outage_history.start_date | request_outage.proposed_start1 or proposed_start2 |
| tra_outage_history.end_date | request_outage.proposed_end1 or proposed_end2 |
| tra_outage_history.erts_day | request_outage.erts_day |
| tra_outage_history.erts_night | request_outage.erts_night |
| tra_outage_history.continuous | request_outage.continuous |
| tra_outage_history.service | request_outage.service |
| tra_outage_history.availability | request_outage.availability |
| tra_outage_history.status | request_outage.status |

In each case the status of the accepted request outages will be updated to 'In Plan' and the current system date/time is stored in the 'last time the status was changed' field.

5.25 Request Outage File Upload

5.25.1 Brief Description

This process allows a flat delimited file of outage requests to be loaded into TOGA. The records in the file may be to amend an existing request outage or to add a new request, which in turn could be to add, update or cancel a planned outage, or could be a comment entry.

In phase 2 this will be extended to allow the creation of DNO request outages.

The file structure and validation is defined in the TO Interface document and will therefore not be repeated in this document.

5.25.2 Processing

The user will present TOGA with a comma separated file.

TOGA will validate each record in the file and write any error messages to a return file.

If all records passed validation then TOGA will save the records to the database and a Batch Upload Sequence number will be displayed on the screen, along with the success message and the number of records successfully uploaded.

If any of the new request outage records did not contain a Planned Outage Number, in the file, TOGA will create a unique reference number, prefixed with 'NG', for the outage.

If any of the records failed validation then TOGA will give a failure message on the screen and pass the error file to the user. Failure of the validation on one record will cause the whole file to be rejected although all records will be validated.

5.26 *Accept Pending into Plan*

5.26.1 Brief Description

The Accept processing creates (or updates) a planned outage from a pending outage. The acceptance process can either be called from a list of pending outages, for bulk acceptance, or when editing or viewing a single pending outage

If the acceptance process is called from a list then it should be called once for each outage being accepted.

5.26.2 Validation

The pending outage must be at status 'Awaiting Agreement'.

If the pending outage is flagged as a risk and has not got the mandatory risk information entered then a warning message will be displayed. The acceptance will also be prevented for the outage if the 'Prevent outage acceptance due to missing risk information' system parameter is set.

If outage links exist for the planned outage number and the planned dated on he pending outage infringe one or more of the links then a warning message is displayed stating the outage numbers for the links in violation.

If the freeze date, for the licensed area, has passed for any of the plan years affected by the pending outage and the pending outage does not have a change code and a change description entered then an error message will be displayed and the acceptance of the outages will fail. (2122)

5.26.3 Processing

If the pending outage is an 'addition' then a new planned outage record will be created. This is achieved by setting the pending field from 1 to 0.

If the pending outage is an 'update' then the fields in the planned outage that differ from those in the pending outage will be updated. When updating the planned outage the TO Comments and SO Comments should not be copied from the pending outage.

If the request outage is a 'cancel' outage then set the status of the associated planned outage to 'Cancelled'.

When the planned outage record is created or updated then a history record will be created with the following information:

| History table. field | Populated from |
|----------------------|----------------|
|----------------------|----------------|

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| History table. field | Populated from |
|---------------------------------------|--|
| tra_outage_history.tra_outage_id | tra_outage.tra_outage_id |
| tra_outage_history.change_description | tra_outage.change_description |
| tra_outage_history.change_code_id | tra_outage.change_code_id |
| tra_outage_history.change_user | current user id |
| tra_outage_history.change_date | current system date |
| tra_outage_history.requesting_party | tra_outage.requesting_party |
| tra_outage_history.plan_year | tra_outage.plan_year |
| tra_outage_history.basic_outage_id | tra_outage.basic_outage_id |
| tra_outage_history.description | tra_outage.description (will be null if basic_outage_id is not null) |
| tra_outage_history.start_date | tra_outage.start_date |
| tra_outage_history.end_date | tra_outage.start_date |
| tra_outage_history.erts_day | tra_outage.erts_day |
| tra_outage_history.erts_night | tra_outage.erts_night |
| tra_outage_history.continuous | tra_outage.continuous |
| tra_outage_history.service | tra_outage.service |
| tra_outage_history.availability | tra_outage.availability |
| tra_outage_history.status | tra_outage.status |

If the pending outage was created from a request (if the current_request_outage_id on the pending outage is not null) then set the status of the request outage to 'Planned' and record the user and date/time that the status was updated in the status audit fields.

For update and cancellation pending outages the pending outage record should now be deleted.

The change description and change code fields on the new/updated planned outage should be cleared.

When a pending Outage is ticked in the standard list and accepted into plan, message should be shown as "Selected Outage(s) successfully accepted into plan". (918)

5.27 TOPAM General Outage Report Download

The records selected for download in this file will be the same as those selected when the General Outage Report is run in non download mode.

The format and fields included in this download will be identical to the ALLOD1 download file in TOPAM2. This file includes special characters to separate the data items (¥ for new record, ¢ for new field and ° between repeating values in the freecode field). The data output will be:

| Download File Data Item | Data Table.Field | Format / Transformation / Calculation |
|-------------------------|------------------|---------------------------------------|
| ¥AREA | | Null |

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| | | |
|--------------------|---|--|
| ▣RUN DATE | System date | YYYYMMDD |
| ▣INPUT START DATE | Report start date | YYYYMMDD |
| ▣INPUT FINISH DATE | Report end date | YYYYMMDD |
| ▣TYPE OF CHANGE | tra_outage.purpose | Display the first letter of the purpose field. Note: this will be null for planned outages and 'A','U' and 'C' for pending Addition, Update and Cancellation outages respectively. |
| ▣TYPE OF OUTAGE | tra_outage.pending | if pending = 1 then output 'PN' otherwise output 'PL' |
| ▣GCA | | Null |
| ▣OUTAGE NUMBER | tra_outage.tra_outage_id | |
| ▣YEAR | tra_outage.plan_year | |
| ▣EQUIPMENT | basic_outage.description, tra_outage.description, tra_outage.additional_description | if tra_outage.basic_outage_id is null then tra_outage.description otherwise basic_outage.description. In either case concatenate the additional description on the end. |
| ▣START DATE | tra_outage.start_date | YYYYMMDD |
| ▣START ESI WEEK | tra_outage.start_date | IW (engineering week no) |
| ▣START DAY | tra_outage.start_date | 0.D (day number) e.g. 0.3 = Wednesday |
| ▣FINISH DATE | tra_outage.end_date | YYYYMMDD |
| ▣FINISH ESI WEEK | tra_outage.end_date | IW (engineering week no) |
| ▣FINISH DAY | tra_outage.end_date | 0.D (day number) e.g. 0.3 = Wednesday |
| ▣PFW DATE | tra_outage.pfw_date | Format YYYYMMDD |
| ▣DAILY/CONTINUOUS | tra_outage.continuous | If continuous = 0 then output 'D', otherwise output 'C' |
| ▣INDEX | tra_outage.basic_outage_id | |
| ▣VOLTAGE | Substation_id from the substation linked to the basic outage linked to the tra_outage (from record with the highest voltage_order_id) | 5 th character of the substation_id |
| ▣DA | tra_outage.status | If a planned outage (tra_outage.pending = 0) then output null, otherwise if status = 'Editable' then output 'D' if status = 'Awaiting Agreement' then output 'P' if status = 'Rejected Pending' then output 'R' |
| ▣REQUIRED BY | tra_outage_hist.requesting_party where this is the first (earliest change_date) history record for the outage | |
| ▣APN STATUS | | Always use the value 'N' |
| ▣LAST UPDATED | tra_outage_hist.requesting_party where this is the | |

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| | | |
|--|---|---|
| | most recent (latest change_date) history record for the outage | |
| ▣ISOS TIME | tra_outage.start_date | 'ISO' concatenated with format HH24MI |
| ▣PER TIME | tra_outage.planned_early_release | 'PER' concatenated with format HH24MI |
| ▣APA TIME | tra_outage.planned_apa | 'APA' concatenated with format HH24MI |
| ▣PFW TIME | tra_outage.pfw_date | 'PFW' concatenated with format HH24MI |
| ▣RTS TIME | tra_outage.end_date | 'RTS' concatenated with format HH24MI |
| ▣DESCCODE1▣DESC CODE2 ▣DESCCODE3▣DESC CODE4 ▣DESCCODE5▣DESC CODE6 | dcd_out.dcd_id for the tra_outage_id (and service) | The first code should be either 'IIS' (if service = 1) or 'OOS' (if service < 1). The rest should be the first 5 dcd_ids alphabetically |
| ▣ROOMS1▣ROOMS2 | Tra_outage.so_significance_id, Tra_outage.to_significance | Output so_significance for room1 and to_significance for room2 |
| ▣DETAIL OF WORK | tra_outage.work_involved | |
| ▣REMARKS | tra_owner.operational_remarks | |
| ▣OC2REMARKS | Party_link.party_id and ext_party_comment (where party_type = 'OWN', linked_table_type = 'PLANNED_OUTAGE' and linked_table_id = tra_outage_id | Field should contain each external party id followed by its comment. Each should be separated by the '9' character. |
| ▣CHECK | | Null |
| ▣REST DAY▣REST NIGHT | tra_outage.erts_day tra_outage.erts_night | |
| ▣SWITCH DURATION | | Null |
| ▣LEAD NUMBER | If ths outage is a child in a link to another transmission outage then display the tra_outage_id of the parent | |
| ▣TOWER REF1▣TOWER REF2 ▣TOWER REF3▣TOWER REF4 | basic_tower_ref.basic_tower_id (where the basic_outage_id matches that on the the tra_outage record) | Use the first 4 alphabetically |
| ▣PARTY1▣PARTY2▣PARTY3 ▣PARTY4▣PARTY5▣PARTY6 ▣PARTY7▣PARTY8▣PARTY9 ▣PARTY10▣PARTY11▣PARTY12 ▣PARTY13▣PARTY14▣ | party_link.party_id where linked_table_id = the tra_outage_id and linked_table_type = 'PLANNED_OUTAGE'. | Display up to 15. Display SO parties then TO parties then external parties. |

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| | | |
|--------------------------------------|---|--|
| PARTY15 | | |
| ▣FREECODE | tra_outage_free_code.fce_free_code_id (linked on tra_outage_id/pending) | Show all of the free codes separated by the '9' character (ASCII 186)) |
| ▣NASAP1▣NASAP2 ▣NASAP3▣NASAP4 | asset_out.asset_id (linked on tra_outage_id/pending) | Use the first 4 alphabetically |
| ▣SUBSTN1▣SUBSTN2 ▣SUBSTN3▣SUBSTN4 | tra_outage_sub.substation_id (linked on tra_outage_id/pending) | Use the first 4 alphabetically |
| ▣PLACEMENT | | Null |
| ▣OPTION | | Null |
| ▣WORKCAT▣ | | Null |

5.28 TOPAM Availability/Reliability Report

5.28.1 Description

This report shows availability of monitored equipment during a specified period.

There are three types of report available – by Outage, Nasaps with Outages and a Summary by circuit type.

Where a Nasap has been commissioned or decommissioned during the period selected, availability will be based upon those commissioning dates.

Outages selected can be restricted to only those where they have been entered within the Unavailability Notice period (i.e. at short notice), but this will only affect the Outages and the Nasaps with Outages reports; the Summary report is not affected.

5.28.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|-------------|--|--|
| Report Type | Mandatory, single | Fixed values of 'Summary', 'Assets with Outages', 'Outages'. |
| Plan Year | One of plan year or date range should be entered | |
| Date Range | One of plan year or date range should be | See section 1.4 for allowable formats |

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| Parameter | Mandatory Optional | Other |
|-----------------------|-----------------------|---|
| | entered | |
| Asset Owner | Mandatory, Single | List of EQUIPMENT_OWNERS |
| Parties | Optional, single | List of SO_PARTY_IDs and TO_PARTY_IDs displayed to SO users who can pick multiple values. A TO user will only see TO parties for their own licensed area. Do not enable for report type = 'Summary' |
| Round up date | Mandatory | Default to today's date. Can be set to any date |
| Unavailability Notice | Mandatory | Default to value defined in system parameter. Can be set to any positive number |
| Work Type | Optional, multiple | List of DCD_ID values |
| Assets | Optional | Free text field. Report will match on an many characters that have been entered. |
| Report Restrictions | Mandatory, single | Fixed values of 'No restriction', 'Short Notice'. |
| Outages to include | Mandatory, single | Fixed values of 'Out of Service', 'Downrated Only'. |
| Fault outages only | Checkbox | |
| Sorted by | Mandatory, single | Fixed values of 'NASAP', 'Outage Start Date'. |
| Download File | Checkbox | |

5.28.3 Data Ordering

In the 'Outage' report one line is displayed per asset/outage combination. The data is either sorted by increasing asset id / outage number or by increasing Outage start date order. An outage will appear with each asset affected by it and may therefore appear many times in the list.

The 'Assets with Outages' reports lists the data in increasing asset id order.

The summary section has a fixed data format.

5.28.4 Data Grouping

None.

5.28.5 Data Selection

The main query for the report will be based upon the transmission outage (tra_outage) table.

Include planned outage records where:

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- Either the dates for the outage intersect with the parameter date range entered or the start and end dates for the plan year entered
- The outage status is not 'Cancelled' and not 'Not Taken' and not 'TBA'
- The outage references one or more assets starting with the entered parameter (if any characters entered)
- The asset is in commission during the date range (or plan year) selected. The range of the planned year is the earliest start date for the plan year until the latest end date for the Licensed area of the asset owner selected.
- The asset(s) match the selected equipment owner
- If any work types are selected then the outage must reference one of the selected work types.
- If any parties are selected then the outage must reference one of the selected parties (ignore party selection for summary report)
- If the Report Restrictions parameter is set to Short Notice then only include outages where the notice period is less than the Unavailability Notice value.
- If Outages to Include is set to 'Out of Service' then only select outages which are out of service. If the Outages to Include is set to Downrated Only then only select outages which have a value entered in the Rating Adjustment field.
- If the Fault Outages only checkbox is checked then only include fault outages (tra_outage.fault = 1).
- If the round up date is before today then use the history of the outage as at the round up date
- The asset must be a monitored asset (asset.monitoring_category is not null)

5.28.6 Outage Report Details

5.28.6.1 Outage Report Detail Report Layout

| NASA P | Description | Commissioned / Decommissioned | Outage Number | Short Notice | Actual | Start | End | Outage Type | Period Duration | Total Duration |
|--------|-------------|-------------------------------|---------------|--------------|--------|-------|-----|-------------|-----------------|----------------|
|--------|-------------|-------------------------------|---------------|--------------|--------|-------|-----|-------------|-----------------|----------------|

5.28.6.2 Outage Report Field to Database Field Mapping

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| Report | Notes / Transformations | Database Table | Database Column |
|-------------------------------|--|-------------------------------|------------------------------------|
| NASAP | | asset_out | asset_id |
| Description | | asset (linked by asset_id) | description |
| Commissioned / Decommissioned | Format DD/MM/YYYY HH:MI (24 hour clock) | asset (linked by asset_id) | commission_date, decommission_date |
| Outage Number | | tra_outage | tra_outage_id |
| Short Notice | Calculated field – If the difference between the entry into the plan and the planned start date is less than the Unavailability Period then this field should contain 'Y', otherwise 'N'. | tra_outage | placed_in_plan, start_date |
| Actual | Calculated field – If actual start and end dates are being displayed then this field should contain 'Y' otherwise 'N' | | |
| Start | If the round up date is today and an actual start date exists then display this, otherwise display the planned start date as at the round up date Calculate this date as If the round up date is greater than the most recent outage history and an actual start date has been entered then use this date/time otherwise use the planned start date/time as at the round up date. In each case if the outage is a daily outage treat the start time as 09:00 Display format DD/MM/YYYY HH:MI (24 hour clock) | tra_outage_hist or tra_outage | start_date or actual_start_date |
| End | If the round up date is greater than the most recent outage history and the actual end date/time has been entered then use this value otherwise use the planned end date/time as at the round up date. In each case if the outage is a daily outage treat the end time as 17:00. Display format DD/MM/YYYY HH:MI (24 hour clock) | tra_outage_hist or tra_outage | end_date or actual_end_date |
| Outage Type | Display 'C' for 1 and 'D' for 0. | tra_outage | continuous |
| Period Duration | Calculated field – This is the total length of time that the outage affects the asset within the report. The effective start date/time is calculated as the latest of the midnight on the asset start, the outage start date/time and midnight on the report start date. | | |

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| Report | Notes / Transformations | Database Table | Database Column |
|----------------|---|----------------|-----------------|
| | <p>The effective end date/time is calculated as the earliest of 23:59 on the asset end date, the outage end date/time and 23:59 on the report end date.</p> <p>In the case of a continuous outage the period duration is the actual time between the effective start date/time and effective end date/time expressed as a days with 3 decimal places.</p> <p>In the case of a daily outage the period duration is calculated as the number of whole days between the effective start date and the effective end date (inclusively) divided by 3 (signifying an 8 hour day). This values is expressed in days up to 3 decimal places.</p> <p>If the outage is a downrated outage then the Rating Adjustment should be applied to the final calculation, e.g. if a 10 day outage has a 30% Rating Adjustment then the outage can be considered to be 3 days long.</p> | | |
| Total Duration | <p>Calculated field – This is the total duration of the outage displayed in days. The calculation is identical to the Period Duration calculation above except that instead of calculating the duration between the effective start date/time and the effective end date/time the duration calculation should be performed on the displayed outage start and end date/times.</p> | | |

5.28.6.3 Assets with Outages Report Detail Report Layout

| NASAP | Description | No of Outages | Duration | Availability | Unplanned Unavailability |
|-------|-------------|---------------|----------|--------------|--------------------------|
|-------|-------------|---------------|----------|--------------|--------------------------|

5.28.6.4 Assets with Outages Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|---------------|---|----------------------------|-----------------|
| NASAP | | asset_out | asset_id |
| Description | | asset (linked by asset_id) | description |
| No of Outages | <p>Calculated field – This is a count of the number of outages for the asset which cover the period of the report when the asset is in commission</p> | | |
| Duration | <p>Calculated field – This is the total duration</p> | | |

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| Report | Notes / Transformations | Database Table | Database Column |
|--------------------------|---|----------------|-----------------|
| | <p>of outages on the asset. This is not simply a sum of the outage durations but a calculation of the period covered by the outages (i.e. do not double count overlapping outages). If a continuous outage overlaps a daily outage then the overlapped section of the daily outage should not be counted.</p> <p>The start and end date/time values are calculated as in the 'Outage' section of the report (see 5.28.6.2 above).</p> <p>The duration of a continuous outage is calculated as the period from its start date/time to its end date/time.</p> <p>The duration of a daily outage is calculated as the period of time from its start date/time to its end/date time but with the outage ending at 17:00 in all but its last day and starting at 09:00 on all but its first day.</p> | | |
| Availability | <p>Calculated field – The percentage of the time that the asset was in commission within the duration of the report that the asset was not on outage. i.e. $(100 - (\text{outage duration} * 100)) / \text{duration of asset in report}$</p> | | |
| Unplanned Unavailability | <p>Calculated field – The percentage of the time that the asset was in commission within the duration of the report that the asset was on a short notice outage. i.e. $(\text{short notice outage duration} * 100) / \text{duration of asset in report}$</p> | | |

5.28.6.5 Summary Report Detail Report Layout

| Circuits | Total circuit available days | Availability | Unplanned Unavailability |
|----------|------------------------------|--------------|--------------------------|
|----------|------------------------------|--------------|--------------------------|

5.28.6.6 Summary Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|----------|---|----------------|-----------------|
| Circuits | <p>Fixed rows for :</p> <ul style="list-style-type: none"> Total SGT's (assets where monitoring_category = 'Connection') Total MIS & QBs (assets where monitoring_category = 'MIS') TOTAL System (this is the total of the above 2 rows) Total Compensation (assets where monitoring_category = 'Compensation') | | |

| Report | Notes / Transformations | Database Table | Database Column |
|------------------------------|---|----------------|-----------------|
| Total circuit available days | Total of the days that circuits of this categorisation were in commission during the report timescale. If two assets overlap each other then both should be counted. | | |
| Availability | Calculated field – This is a total of the time that the assets in the circuit category were not on outage compared with the total circuit available days. i.e. $(100 - (\text{duration of outage on assets in this category} * 100)) / \text{total circuit available days}$ | | |
| Unplanned Unavailability | Calculated field – This is a total of the time that the assets were not on short notice outage compared with the total circuit available days. i.e. $(100 - (\text{duration of short notice outages on assets in this category} * 100)) / \text{total circuit available days}$ | | |

5.28.6.7 Download File Format

The download option produces exactly the same data as the screen reports but in a download format. In the TOPAM2 AV001 report the special delimiting characters were used. This new download report will use comma separation instead and will be automatically opened in Excel.

5.29 TOPAM Average Circuit Unreliability Report

5.29.1 Description

This report calculates Average Circuit Unreliability due to outages taken to repair plant. The report uses the equipment group codes to identify when a repair outage is taken. The duration of each outage is calculated for the date range specified in minutes.

Outages taken for repair purposes are those outages booked within the plan year for which the work content is primarily for the purpose of repairing a plant defect.

The report consists of three sections. The first lists the relevant repair outages in asset order, the second lists all of the assets and shows the effect of the repair outages on the reliability of the circuit and the third shows the average circuit unreliability by the equipment group.

5.29.2 Report Parameters

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| Parameter | Mandatory Optional | Other |
|-----------------|--|--|
| Plan Year | One of plan year or date range should be entered | |
| Date Range | One of plan year or date range should be entered | See section 1.4 for allowable formats |
| Equipment Group | Optional, multiple | List of Plant Equipment Groups from the Plant_equipment_group table. |
| Asset Owner | Mandatory, Single | List of EQUIPMENT_OWNERS |
| Round up date | Mandatory | Defaults to the current system date. Can be changed to any date. |
| Download File | Checkbox | |

5.29.3 Data Ordering

The first section lists the repair outages in increasing asset id, outage start date order. If an outage affects more than one asset then it will appear multiple times in this list.

The second section lists the assets, affected by repair outages, in increasing Circuit/Description order. One record is displayed per asset id / Equipment group combination.

The third section lists the equipment groups in increasing name order.

5.29.4 Data Grouping

None.

5.29.5 Data Selection

The main query for the report will be based upon the transmission outage (tra_outage) table.

Include planned outage records where:

- the dates for the outage intersect with the plan year for the outage TO or the dates intersect the parameter date range entered
- the outage has a plant equipment group entered and it matches one of the parameter groups (if any entered)
- the outage is not 'Cancelled' and not 'Not Taken' and not 'TBA'

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- the main circuit on the outage is out of service
- if the round up date is today and the outage has actual dates entered then the actual dates are used in the selection criteria
- an asset on the outage must have the specified equipment owner
- If the user enters a round up date before today then the history from this date should be used to determine the outage data used.
- The asset must be a monitored asset (asset.monitoring_category is not null)

5.29.6 Report Details

5.29.6.1 Repair Outage Report Layout

| NAS AP Code | Circuit / Description | Outage Number | Equipment Group | Reference | Work Involved | Start Date | Start Time | End Date | End Time | Time Out (Mins) | Adjusted Time Out (Mins) |
|-------------|-----------------------|---------------|-----------------|-----------|---------------|------------|------------|----------|----------|-----------------|--------------------------|
|-------------|-----------------------|---------------|-----------------|-----------|---------------|------------|------------|----------|----------|-----------------|--------------------------|

5.29.6.2 Repair Outage Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|----------------|---------------------------------|
| NASAP Code | | Asset_out | Asset_id |
| Circuit / Description | | Asset | Description |
| Outage Number | | Tra_outage | Tra_outage_id |
| Equipment Group | | Tra_outage | Plant_equipment_group |
| Reference | | Tra_outage | Fads_number |
| Work Involved | | Tra_outage | Work_involved |
| Start Date | Format DD/MM/YYYY. If round up date is today and the actual start date has been entered then use the actual start date, otherwise use the planned start date | tra_outage | start_date or actual_start_date |
| Start Time | Format HH:MI (24 hour clock) If round up date is today and the actual start time has been entered then use the actual start time, otherwise use the planned start time. If no planned start time has been entered then use 09:00 | | start_date or actual_start_date |
| End Date | Format DD/MM/YYYY If round up date is today and the actual end date has been entered then use the actual end date, otherwise use the planned end | tra_outage | End_date or actual_end_date |

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| Report | Notes / Transformations | Database Table | Database Column |
|--------------------------|--|----------------|-----------------------------|
| | date | | |
| End Time | Format HH:MI (24 hour clock) If round up date is today and the actual end time has been entered then use the actual end time, otherwise use the planned end time. If no planned end time has been entered then use 17:00 | tra_outage | End_date or actual_end_date |
| Time Out (Mins) | Calculated – The total number of minutes that the outage covers within the report range. If an outage is daily then this value is the number of days covered by the outage * 8 * 60 (representing 8 hours per day). | | |
| Adjusted Time Out (Mins) | Calculated – The total number of minutes that this outage covers but not recounting any time that the asset was out under another outage. This is achieved by ordering the outages in increasing start date order and counting the time that is not covered from the latest end date of any previous outages. | | |

5.29.6.3 Circuit Unreliability by NASAP Code Report Layout

| NASAP Code | Circuit / Description | Equipment Group | Repair Time Out (Mins) | Average Circuit Unreliability (%) |
|------------|-----------------------|-----------------|------------------------|-----------------------------------|
|------------|-----------------------|-----------------|------------------------|-----------------------------------|

5.29.6.4 Circuit Unreliability by NASAP Code Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------------------|--|----------------|-----------------------|
| NASAP Code | | Asset_out | Asset_id |
| Circuit / Description | | Asset | Description |
| Equipment Group | | Tra_outage | Plant_equipment_group |
| Repair Time Out (Mins) | Calculated – The total number of minutes that the asset was under fault outage within the report period This is calculated as the sum of the Adjusted Time Out (mins) values for the NASAP code / Equipment Group combination | | |
| Average Circuit Unreliability (%) | Calculated – the Repair Time Out (mins) divided by the total length of time covered by the report. Note: this calculation divides the repair time by the total period of the report not the period that the asset is in commission within the report period. | | |

5.29.6.5 Circuit Unreliability by Equipment Group Report Layout

| | |
|-----------------|-----------------------------------|
| Equipment Group | Average Circuit Unreliability (%) |
| | Total |

5.29.6.6 Circuit Unreliability by Equipment Group Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------------------|---|-----------------------|-----------------|
| Equipment Group | | Plant_equipment_group | Description |
| Average Circuit Unreliability (%) | Calculated – the total time that the circuits were on repair outage for this equipment group divided by the total time that all monitored assets for the equipment owner were in commission during the report period. | | |
| Total | Sum of the Average Circuit Unreliability values | | |

5.29.6.7 Download File Format

The download option produces exactly the same data as the screen reports but in a download format. In the TOPAM2 ACU1 report the special delimiting characters were used. This new download report will use comma separation instead and will be automatically opened in Excel.

5.30 TOPAM Monitoring Report**5.30.1 Description**

This report show outages and the changes made to them in terms of start and end date, and the notice period of each.

A summary report and a detail report are available, also the facility to download the monitoring detail information to a local file.

The following types of changes are included in the reports:

- Bookings that have had their date changed to another date.
- Deletion from plan.
- Added to plan.

5.30.2 Report Parameters

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| Parameter | Mandatory Optional | Other |
|------------------------|--|--|
| Plan Year | One of plan year or date range should be entered | |
| Date Range | One of plan year or date range should be entered | See section 1.4 for allowable formats |
| Licensed Area | Optional, Multiple | TRA_OWNER.TRA_OWNER_ID – all values If user is a TO user then do not display this field but automatically select their TRA_OWNER_ID. |
| Outage Owner | Optional, Single | List of EQUIPMENT_OWNERS |
| Change Category | Optional, Multiple | List of CHANGE_CODE_ID values |
| Requesting Party | Optional, Multiple | A combination of: a) TOPAM_SO_PARTY.SO_PARTY_ID – all values b) TOPAM_TO_PARTY.TO_PARTY_ID – all values where TRA_OWNER_ID = basic_outage.TRA_OWNER_ID (if a TO user otherwise all values), c) External parties for the outage TO's licensed area |
| Parties | Optional, Multiple | List of SO_PARTY_IDS and TO_PARTY_IDS displayed to SO users who can pick multiple values. A TO user will only see TO parties for their own licensed area. |
| SO Impact | 5 checkboxes | Checkbox titles: A – MIS, B – Connection, C – Affects NGC, D – Affects Operation, E – No Impact on SO All should be checked by default. |
| TO Impact | 5 checkboxes | One checkbox for each impact value 1 – 5. All should be checked by default. |
| Assets | Optional | Free text field. Report will match on as many characters that have been entered. |
| Service | Mandatory | List – fixed values 'In Service Only' and 'Out of Service Only' |
| Change Categories Only | Checkbox | |
| Changes in Period | Mandatory 2 button radio group. | Radio button values: 'Outage changes made within period' and 'Outage changes affecting the period'. |
| Report Type | Mandatory | List – fixed values 'Detail', 'Summary'. |
| Download File | Checkbox | |

5.30.3 Data Ordering

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The detail report lists the outages in increasing outage number order. If there have been more than one change to an outage then the changes are listed in increasing date of change order.

The summary section lists the change categories in increasing alphabetical order.

5.30.4 Data Grouping

None.

5.30.5 Data Selection

The main query for the report will be based upon the transmission outage change history (tra_outage_history) table.

Include planned outage records where:

- If the 'Outage changes made within period' option of the 'Changes in Period' radio group is selected then the change date must be within the report period (either the entered date range or the start/end date range for the selected plan year for the equipment owner).
- If the 'Outage changes affecting the period' option of the 'Changes in Period' radio group is not checked then the dates for the outage must intersect with the report period (either the parameter date range or the start/end date range for the selected plan year for the equipment owner) and the change must affect the report period.
- the change is either a change of start date, change of end date, a status change to or from Not Taken or TBA, a status change to 'Cancelled' or an addition (i.e. the first history record for the outage)
- the outage change must be for the change category (if any entered)
- the outage change must be for the requesting party (if any entered)
- the outage must reference one of the parties (if any entered)
- the outage must reference one or more assets starting with the entered character(s) (if entered)
- the outage must have the specified equipment owner (if one selected)
- the outage must be for the licensed area (if any selected)
- the SO impact must be one of the selected values.
- the TO impact must be one of the selected values.

5.30.6 Report Details

5.30.6.1 Monitoring Detail Report Layout

| Outage Number | Circuit / Description | Change Date | Old Start Date | Old finish Date | New Start Date | New finish Date (2141) | Days Added | Change Type | Notice | Requesting Party | Change Code | Change Description |
|---------------|-----------------------|-------------|----------------|-----------------|----------------|------------------------|------------|-------------|--------|------------------|-------------|--------------------|
|---------------|-----------------------|-------------|----------------|-----------------|----------------|------------------------|------------|-------------|--------|------------------|-------------|--------------------|

5.30.6.2 Monitoring Detail Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|----------------------------------|---|
| Outage Number | | Tra_outage_history | Tra_outage_id |
| Circuit / Description | If tra_outage_history.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| Change Date | Format DD/MM/YYYY | Tra_outage_history | Change_date |
| Old Start Date | Format 'DD/MM/YYYY' Leave blank if no previous history record | (previous) Tra_outage_history | Start_date, end_date |
| Old Finish Date | Format 'DD/MM/YYYY' Leave blank if no previous history record | (previous) Tra_outage_history | Start_date, end_date |
| New Start Date | Format 'DD/MM/YYYY' Or 'CANC' if the outage is now cancelled Or 'Not Taken' if the outage is now not taken. Or 'TBA' if the outage is now TBA. | Tra_outage_history | Start_date, end_date |
| New Finish Dates | Format 'DD/MM/YYYY' Or 'CANC' if the outage is now cancelled Or 'Not Taken' if the outage is now not taken.(2141) Or 'TBA' if the outage is now TBA. | Tra_outage_history | Start_date, end_date |
| Days Added | Calculated field – Difference between the old length of the outage and the new length. Will be negative for a shortened or cancelled outage, | | |
| Change Type | Calculated Value: ADD (New), DEL (Cancelled), DNT (Not Taken), CHB (Change Both Dates), CHS (Change Start Date), CHE (Change End Date), TBA (TBA) | | |
| Notice | Calculated field – If the start date has changed then this is the number of days difference between | | |

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| Report | Notes / Transformations | Database Table | Database Column |
|--------------------|---|------------------------|------------------------|
| | the change date and the lesser of the old and new start dates Otherwise if the end date has changed then this is the number of days difference between the change date and the lesser of the old and new end dates | | |
| Requesting Party | | Tra_outage_hist ory | Requesting_party |
| Change Code | | Tra_outage_hist ory | Change_code_id |
| Change Description | | Tra_outage_hist ory | Change_descripti on |

5.30.6.3 Monitoring Summary Report Layout

| Change Category | Category Description | <1d | 1d | 1-7d | 8-14d | 15-28d | 5-7w | 8-13w | >13w | 0-28d Total | >29d Total | Total |
|-----------------|----------------------|-----|----|------|-------|--------|------|-------|------|-------------|------------|-------|
| | | | | | | | | | | | | |

5.30.6.4 Monitoring Summary Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|----------------------|--|----------------|-----------------|
| Change Category | If the 'Change Categories Only' checkbox is unchecked then there should be an additional row for 'Not specified' for the changes which do not have a change category entered. | Change_code | Change_code_id |
| Category Description | | Change_code | Description |
| Non 'Total' fields | Calculated fields – These fields are counts of the number of outage changes grouped by the notice of change. The total of each field should be displayed at the foot of the column. | | |
| 'Total' fields | Calculated fields – Totals of the above fields grouped according to the headings. The total of each field should be displayed at the foot of the column. | | |

5.30.6.5 Monitoring Detail Download Format

This data is exactly as in the monitoring detail report. In the TOPAM2 MONC2 report the special delimiting characters were used. This new download report will use comma separation instead and will be automatically opened in Excel.

5.31 TOPAM Download Report (New)

5.31.1 Description

This report will allow the user to select required outages and produce a listing of the main details of the outage and selected notes. Unlike the majority of the TOGA reports which give the option of an HTML or PDF format output, this report will be configured to automatically open in Microsoft Word in portrait format (assuming that the local PC has this software installed).

The criteria used for selecting the outages will be similar to that used in the Weekly Outage report.

The report will consist of a list of the outages that start in, end in or span the specific date range.

The report should be downloaded in a format which can be edited by the user without losing the formatting of the report. (1325)

5.31.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|---|--|---|
| Date Range | Mandatory | See section 1.4 for allowable formats |
| Outages in Period | Mandatory 2 button radio group. | Radio button values: 'Outage starts within the period' and 'Outage dates affect the period'. |
| Outage Number | Optional | |
| Licensed Area | Optional, Multiple | TRA_OWNER.TRA_OWNER_ID – all values If user is a TO user then do not display this field but automatically select their TRA_OWNER_ID. |
| SO Party | Optional, Multiple | TOPAM_SO_PARTY.SO_PARTY_ID – all values |
| TO Party | Optional. Multiple | TOPAM_TO_PARTY.TO_PARTY_ID – all values If user is a TO user then restrict the list to TO parties in their licensed area. |
| Include outages of 'Affects operation/study' impact | Checkbox | This includes outages of SO impact 'D' |
| Include outages of No Impact | Checkbox | This includes outages of SO impact 'E' |
| Which comments to display | Optional, Multiple | Fixed values: 'SO Comments', TO Comments, Operational Remarks, 'Initial Placement Notes', 'Optimisation Notes', 'Delivery Notes' and |

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| Parameter | Mandatory Optional | Other |
|---------------------|-----------------------|---|
| | | 'Control Room Notes' Only display those which the user can view based upon the security operations: 'View Initial Placement Notes', 'View Optimisation Notes', 'View Delivery Notes', 'View Control Room Notes', 'Edit Initial Placement Notes', 'Edit Optimisation Notes', 'Edit Delivery Notes' and 'Edit Control Room Notes' SO Comments, TO Comments and Operational Remarks are always an option. |
| Include TO bookings | Checkbox | |

5.31.3 Data Selection

The main query for the report will be based upon the transmission outage (tra_outage) table. The outage data displayed will be the planned outages which:

- ✓ if the 'Outage dates affect the period' option is selected then select outages which start, end or span the parameter date range
- ✓ if the 'Outage starts within the period' option is selected then only select outages which start in the parameter date range
- ✓ match the entered Outage number (if one entered)
- ✓ match the licensed area (if one or more selected)
- ✓ include the SO party parameter (if chosen)
- ✓ include the TO party parameter (if chosen)
- ✓ are not TO bookings (unless include TO bookings parameter is set)
- ✓ the status of the outage is not 'Cancelled' or 'Not Taken' or 'TBA'
- ✓ are not outages of 'Affects operation/study' impact (unless the required by the parameter setting)

5.31.4 Data Ordering

Outages which start in the parameter date range will be displayed first, followed by those which end in parameter date range. This is followed by those which span parameter date range.

Within the above groupings the data will be displayed in SO impact order (A, B and C grouped together followed by D and then E (if required))

Within the above groupings the data will be displayed in ascending start date and then end date order

5.31.5 Report Details

5.31.5.1 Report Layout

| | | | |
|---|--|----------------------------------|-------------------------|
| Outage No : <Outage No> | Circuit/Description: <Circuit/Description> | | |
| Start : <Start Date/Time> | ERTS Day: <ERTS Day> | Main Circuit <in/out of> service | <Outage Starts in Week> |
| End : <End Date/Time> | ERTS Night: <ERTS Night> | | <Daily/Continuous> |
| NASAPS: <List of Asset ID codes> | | | |
| SO Comments <SO Comments> | | | |
| TO Comments <TO Comments> | | | |
| Operational Remarks <Operational Remarks> | | | |
| Initial Placement Notes < Initial Placement Notes> | | | |
| Optimisation Notes < Optimisation Notes > | | | |
| Delivery Notes < Delivery Notes > | | | |
| Control Room Notes < Control Room Notes > | | | |

The gridlines are shown for formatting purpose only. The actual report will not have printed lines.

The comments and notes, and associated headers, will only be shown if the user had opted to display them (via the 'Which Comments to Display' parameter).

5.31.5.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|---|--|---------------------------------|---|
| Outage No | Display in bold and a slightly larger text than the other fields | tra_outage | tra_outage_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between Display in bold | tra_outage and /or basic_outage | description and/or additional_description |
| Start date/time | Format DD/MM/YYYY (Day) HH:MI e.g. 26/07/2004 (Monday) 09:30 | tra_outage | start_time |
| End date/time | Format DD/MM/YYYY (Day) HH:MI | tra_outage | end_date |
| ERTS Day ERTS Night | Day and night figures | tra_outage | erts_day & erts_night |
| Main circuit <in/out of > service | Display value 'Main Circuit in service' for 1 and 'Main Circuit out of service' for 0. | tra_outage | service |
| Outage Starts in Week | Value 'Outage starts in week' if the outage starts in the report date range, 'Outage ends in week' if it ends (but does not start) in the report date range | N/A | |

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| Report | Notes / Transformations | Database Table | Database Column |
|--|--|--|---|
| | or 'Outage spans week' if it spans the report date range. | | |
| Daily/Continuous | Value 'Daily' (for 0) or 'Continuous' (for 1) | tra_outage | continuous |
| NASAPS | Listed across the page with comma separation | asset_out matched on tra_outage_id | asset_id |
| SO Comments TO Comments | If the users opts to view the SO comments and/or TO comment then the comment and label should be displayed. Otherwise do not show the comments or the label. | tra_outage | so_comments, tra_owner_comm. |
| Operational Remarks | If the user opts to view the Operational Remarks then the field and the label should be displayed. Otherwise do not show the field or label. | tra_outage | operational_remarks |
| Initial Placement Notes Optimisation Notes Delivery Notes Control Room Notes | Relevant notes as defined by the parameter. The text can span multiple lines – displayed this data in HTML format | tra_outage | gbso_year_comm., gbso_optim_comm., gbso_deliv_comm., control_act_comm. |

5.32 Planned Change History Report

5.32.1 Description

This report compares the outage plan for a data range with how the plan looked at a date in the past (known as the last run date). The report has sections which show all the outages which have moved into the date range, those which have moved out, those which have moved but remained within the period, those which have not moved but have had some other change, and those which are unchanged since the last run date.

5.32.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|-----------|-----------------------|-------|
| Plan Year | One of plan | |

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| Parameter | Mandatory Optional | Other |
|---------------------|--|---|
| | year or date range should be entered | |
| Date Range | One of plan year or date range should be entered | See section 1.4 for allowable formats |
| Last Run Date | Mandatory | Date and time must be entered. |
| Licensed Area | Optional, Single | List of TRA_OWNERS |
| Free Codes | Optional, multiple | |
| SO Parties | Optional, multiple | List of SO_PARTY_IDs |
| TO Parties | Optional, multiple | List of TO_PARTY_IDs displayed to SO users who can pick multiple values. A TO user will only see TO parties for their own licensed area. |
| Service | Optional | List of fixed values: null, 'In Service Only', 'Out of Service Only'. |
| SO Significance | Checkboxes | One checkbox is displayed for each of the five SO Significance values. The first 3 (A, B, C) should be checked as default. |
| Sections to include | Checkboxes All checked by default | One checkbox displayed for each of the 5 report sections (listed below). If the checkbox is checked then this section will be included in the report. |

5.32.3 Data Grouping

The report is grouped into five sections:

- Outages which have moved into the period,
- Outage which have moved out of the period,
- Outage which have moved but remain in the period,
- Outage which have not moved but have changed and
- Outages which are unchanged

Only include the sections that have been requested in the parameter page.

5.32.4 Data Ordering

Within each section the outages are listed in increasing outage number order.

5.32.5 Data Selection

The main query for the report will be based upon the transmission outage (tra_outage) table.

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Include planned outage records where:

- The outage must be for the licensed area (if one selected)
- The outage is a planned outage (pending = 0).
- The outage must be linked to one or more of the selected free codes (if any selected)
- The outage must be linked to one or more of the selected SO parties (if any selected)
- The outage must be linked to one or more of the selected TO parties (if any selected)
- If the user has specified 'In Service only' or 'Out of service only' then only outages with service = 1 and service = 0 respectively should be included.
- The so_significance of the outage must be one of the selected values

An outage is considered to be in the period if its current planned start and end dates (from the tra_outage record) intersect with the specified date range or plan year range and the current status is either 'Planned', 'Started' or 'Complete'.

An outage is considered to have been in the period, as at the last run date, if the planned start and end dates from the tra_outage_history record, effective at the last run date, intersect with the specified date range or plan year range and the status at that time was either 'Planned', 'Started' or 'Complete'.

The 'Outages which have moved into the period' section of the report should include outages that were not in the period as at the last run date but are currently in the period.

The 'Outage which have moved out of the period' section of the report should include outages that were in the period as at the last run date but are not currently in the period.

The 'Outage which have moved but remain in the period' section of the report should include outages that were in the period as at the last run date and are also currently in the period but the days that the outage covers within the report has changed (note: this is necessarily simply a change in the start and end dates – for example if an outage, as at the last run date, ends after the end of the report period and the end data is now different but still ends after the end of the report period then this will be deemed to be unchanged.)

The 'Outage which have not moved but have changed' section of the report should include outages that were in the period as at the last run date and are also currently in the period and the days that the outage covers within the report are unchanged.

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The 'Outages which are unchanged' section of the report should include outages which are currently in the period have no history record later that the last run date.

5.32.6 Report Details

5.32.6.1 Report Detail Report Layout

| Status | Outage Number | Circuit / Description | Start / End Date | C / D | Work Involved | ERTS Day ERTS Night | Changed Date Changed By | Type of Change |
|--------|---------------|-----------------------|------------------|-------|---------------|------------------------|----------------------------|----------------|
|--------|---------------|-----------------------|------------------|-------|---------------|------------------------|----------------------------|----------------|

5.32.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|--|--|--|--|
| Status | This is a calculated field. It will contain 'Addition' if the outage did not exist as at the Last Run date, 'Cancelled' if the outage is now cancelled or 'Not Taken' or 'TBA' but was not at the Last Run date, or 'Updated for all other conditions. | tra_outage | status |
| Outage Number | | tra_outage | tra_outage_id |
| Circuit / Description | basic_outage.description concatenated with tra_outage.additional_description (with a space between). | tra_outage and basic_outage (linked via basic_outage_id) | tra_outage.additional_description and basic_outage.description |
| Start Date | Format DD/MM/YYYY | tra_outage | start_date |
| End Date | Format DD/MM/YYYY | tra_outage | end_date |
| C/D | Display 'C' for 1 and 'D' for 0 | tra_outage | continuous |
| Work Involved | | tra_outage | work_involved |
| ERTS Day | | tra_outage | ERTS_Day |
| ERTS Night | | tra_outage | ERTS_Night |
| Changed Date, Changed By, Type of Change | The 'Type of Change' field should show all the fields which have been changed since the last history record. Possible values are 'Availability', 'C/D', 'End Date', 'ERTS Day', 'ERTS Night', 'Plan Year', 'In Service', 'Start Date' and 'Circuit (if the Basic_outage_id has changed). Additionally display a change type of 'Not Taken' or 'TBA' 'Cancelled' if the status has changed to one of these values. Do not count other status changes as a change. | tra_outage_history all records for the outage after (not on) the last update date | change_date and change_user. Also need to compare availability, basic_outage_id, continuous, end_date, erts_day, erts_night, plan_year, service and status with the values from the previous |

| Report | Notes / Transformations | Database Table | Database Column |
|--------|-------------------------|----------------|-----------------|
| | | | history record. |

5.33 Actual Outages Taken (NOC)

This report although initially requested to be included in TOGA is actually not required. The Detailed Commissioning Information Report has been developed in its place.

5.34 Detailed Commissioning Information Report

5.34.1 Description

This report shows all the whole of the fields in the Commissioning Assets records. This report is similar to the List Commissioning Information report detailed in the TOGA Commissioning Assets Design Document [Reference 11] apart from that it includes all the commissioning information and not just a summary of the information. This new report will be called from the Query Commissioning Assets screen in the same way as the list report is currently called and will use the same data query. The report will be run from a 'Detailed Report' button, which will be added to the query screen. Pressing the button will cause the report to be displayed in a pdf format in a separate browser.

5.34.2 Report Parameters

This report will be called from the Query Commissioning Records screen and will therefore use the parameters already defined on the screen.

5.34.3 Data Grouping

N/A

5.34.4 Data Ordering

The records are displayed in either ascending record id (commissioning_id) or effective date (effective_date) order depending upon the value in the Order By parameter.

5.34.5 Data Selection

The main query for the report will be based upon the Commissioning Records (commissioning) table.

The records selection for the report is the same at that used for the Commissioning List Report [Reference 11 – section 3.4]

5.34.6 Report Details

5.34.6.1 Report Detail Report Layout

| | | | |
|------------------------|----------------------|-----------------------|---------------|
| Record ID | Effective Date | Record Type | Status |
| Responsible SO Planner | Temporary/ Permanent | New/Replacement | Licensed Area |
| Nature of Change | | | |
| Requirement Type | Received / Date | Comments | |
| Required Date | Received By | | |
| Substations | | | |
| Linked outage number | Start/ End | Circuit / Description | |

Note: Display one of these per requirement

5.34.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|---|---|----------------|------------------|
| Record ID | | commissioning | commissioning_id |
| Effective Date | | commissioning | effective_date |
| Record Type | | commissioning | record_type |
| Status | | commissioning | status |
| Responsible SO Planner | | commissioning | so_lead_planner |
| Temporary / Permanent | | commissioning | temp_perm |
| New / Replacement | | commissioning | new_rep |
| Licensed Area | | commissioning | tra_owner_id |
| Nature of Change | | commissioning | nature_of_change |
| Requirements – Display this part once for each requirement which has the required flag set – e.g. op_diag_needed = 1 | | | |
| Requirement Type | Either 'Operational Diagram', 'Commissioning Program', 'HVSCC', 'Rating Schedule', 'Protection Schedule', 'ELLA Change', 'Site Responsibility Schedule', 'Other Requirements', 'IEMS Change', 'Equipment Acceptance Certificate'. | commissioning | |

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| Report | Notes / Transformations | Database Table | Database Column |
|-----------------|---|----------------|--|
| Received / Date | <p>For the requirement type being shown display the 'received' value (from the <requirement type>_got field – displaying 1 as 'Y' and 0 as 'N') followed by the received date (from the <requirement type>_got_date field) No values to be displayed for IEMS Change or Equipment Acceptance Certificate. Format DD/MM/YYYY</p> | commissioning | (op_diag_got and op_diag_got_date) or (comm_prog_got and comm_prog_got_date) or (hvscg_got and hvscg_got_date) or (rat_sched_got and rat_sched_got_date) or (prot_sched_got and prot_sched_got_date) or (ella_got and ella_got_date) or (site_resp_got and site_resp_got_date) or (other_req_got and other_req_got_date) |
| Required Date | <p>For each required requirement calculate and display the required date as follows. The required date for a requirement is calculated as a number of weeks before the commissioning effective date. The number of weeks to be used for each of the requirements is defined in a system parameter. There will</p> | | |

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| Report | Notes / Transformations | Database Table | Database Column |
|-------------|--|----------------|--|
| | <p>be 8 of these parameters, one for each of the requirements. There will not be a system parameter for the 'Other Requirements' requirement because, by its very nature, it is not a defined number of weeks.</p> <p>A requirement will be considered to be overdue when its required date is before the system date and the respective Received checkbox has not been checked. If the requirement is overdue then display the required date in red text. Format DD/MM/YYYY</p> | | |
| Received By | Note: There is no value to display for IEMS Change or Equipment Acceptance Certificate. | commissioning | op_diag_got_user or comm_prog_got_user or hvscg_got_user or rat_sched_got_user or prot_sched_got_user or ella_got_user or site_resp_got_user or other_req_got_user |
| Comments | | commissioning | op_diag_comments or comm_prog_comments or hvscg_comments or rat_sched_c |

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| Report | Notes / Transformations | Database Table | Database Column |
|----------------------|--|---|--|
| | | | omments or prot_sched_comments or ella_comments or site_resp_comments or other_req_comments or iems_comments or equip_acc_comments |
| Substations | List of Substation Ids and descriptions down the page | substation (linked via commissioning_substation_link where commissioning_id = the commissioning record being displayed) | substation_id and description |
| Assets | List of Asset Ids (NASAP Codes) and descriptions down the page | asset (linked via commissioning_asset_link where commissioning_id = the commissioning record being displayed) | asset_id and description |
| Linked Outage Number | | outage_commissioning_link (where commissioning_id = the commissioning record being displayed) | tra_outage_id |

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|--|--|
| Start / End | Format DD/MM/YYYY | tra_outage linked via outage_commissioning_link (where commissioning_id = the commissioning record being displayed) and pending = 0 (or pending = 1 if a record with pending = 0 does not exist for the tra_outage_id) | start_date / end_date |
| Circuit / Description | if tra_outage.basic_outage_id is not null then display basic_outage.description (linked by the basic_outage_id) otherwise display the tra_outage.description. In either case concatenate tra_outage.additional_description to the end of the description. | As for Start / End date above | tra_outage.additional_description and basic_outage.description |

5.35 Number and Average Duration of Outages Report

This report was initially requested to be included in the TOGA application but is now known not to be required.

5.36 Differences Report (New)

5.36.1 Description

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This report compares outages in one specified period with outages in another specified period and list the outages that were in the first period but not in the second, are in the second period but not in the first, and those in both periods. It is expected that this report will be run for two consecutive weeks, for example, to show the changes in the plan for the weeks.

The report can be run in two modes: the first will compare outage numbers to determine the differences, and the other will use the basic reference to determine the differences. Using the second mode if a basic outage existed in the first period, attached to a planned outage, and it also existed in the second period, attached to another planned outage, then it will count as being in both periods even though it was attached to different planned outages.

5.36.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|---------------------|---|--|
| Period 1 Date Range | Mandatory | See section 1.4 for allowable formats. |
| Period 2 Date Range | Mandatory | See section 1.4 for allowable formats. |
| Licensed Area | Optional, Single | List of TRA_OWNERS |
| SO Parties | Optional, multiple | List of SO_PARTY_IDs |
| TO Parties | Optional, multiple | List of TO_PARTY_IDs displayed to SO users who can pick multiple values. A TO user will only see TO parties for their own licensed area. |
| Report Type | Mandatory, single | Fixed values of 'Planned Outage Comparison' and 'Basic Reference Comparison' |
| Outage Types | Checkboxes All checked by default except TO Booking | Display 5 checkboxes, one for each of the outage types – Standard, Comment, TO Booking, DNO Outage and SO Confidential. |

5.36.3 Data Grouping

The report is grouped into three sections:

- Outages in period 1 which are not in period 2,
- Outages in period 2 which are not in period 1 and
- Outages which are in both period 1 and 2

5.36.4 Data Ordering

Within each section the outages are listed in increasing start date order.

5.36.5 Data Selection

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The main query for the report will be based upon the transmission outage (tra_outage) table.

Include planned outage records where:

- The outage is an out of service booking (tra_outage.service = 0)
- The outage is a planned outage (pending = 0).
- The outage must be for the licensed area (if one selected)
- The outage must be linked to one or more of the selected SO parties (if any selected)
- The outage must be linked to one or more of the selected TO parties (if any selected)
- The outage status is either 'Planned', 'Started' or 'Complete'
- The outage type is one of the types selected in the parameter page

The 'Outages in period 1 which are not in period 2' section should include outages whose date range crosses period 1 but not period 2.

The 'Outages in period 2 which are not in period 1' section should include outages whose date range crosses period 2 but not period 1.

The 'Outages which are in both period 1 and 2' section should include outages whose date range crosses both periods 1 and 2.

When the report is being run in 'Planned Outage Comparison' mode then the comparison of outages in period 1 and period 2 should be performed using the tra_outage_id.

When the report is being run in 'Basic Reference Comparison' mode then the comparison of outages in period 1 and period 2 should be performed using the basic_outage_id. I.e. if a planned outage is in period 1 and there is another planned outage with the same basic_outage_id then the outage is deemed to be in both periods 1 and 2.

5.36.6 Report Details

5.36.6.1 Report Detail Report Layout

| | | | | | |
|---------------|-----------------|-----------------------|------------|----------|--------|
| Outage Number | Basic Reference | Circuit / Description | Start Date | End Date | NASAPS |
|---------------|-----------------|-----------------------|------------|----------|--------|

5.36.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|---------------|-------------------------|----------------|-----------------|
| Outage Number | | tra_outage | tra_outage_id |
| Basic | | tra_outage | basic_outage_id |

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| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|--|---|--|
| Reference | | | |
| Circuit / Description | basic_outage.description concatenated with tra_outage.additional_description (with a space between). | tra_outage and basic_outage (linked via basic_outage_id) | tra_outage.additional_description and basic_outage.description |
| Start Date | Format DD/MM/YYYY | tra_outage | start_date |
| End Date | Format DD/MM/YYYY | tra_outage | end_date |
| NASAPS | List of Asset Ids (NASAP Codes) across the page | asset_out (all records where tra_outage_id matches the tra_outage record and where pending = 0. | asset_id |

5.37 Asset Combination Search Report (New)

5.37.1 Description

This report allows the user to view all the times when a particular set of assets were on outage, or are planned to be on outage, at the same time. The user can pick a number of assets to search on and a date range to search within. Picking a small number of assets and an unspecified date range may result in a very large number of results. The report will therefore allow the user to select the maximum number of occurrences to display.

This report will be run as an embedded HTML report giving the ability to access the referred to outages by selecting their hyperlink.

5.37.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|------------|-----------------------|--|
| Assets | Mandatory | The asset ids for at least two assets should be entered in this field in a comma delimited format. If the user does not know the asset ids then a 'Find Asset' button can be used to take them to the Query Assets screen allowing them to query and pick an asset to add to this field. If the user enters more than 8 assets then the report will return an error message. |
| Date Range | Optional | See section 1.4 for allowable formats. |

| Parameter | Mandatory Optional | Other |
|-------------------------------|-----------------------|--|
| Planned / Actual dates | Mandatory | List of fixed values: 'Planned', 'Actual'. |
| Maximum number of occurrences | Optional | Any positive whole number. Default this parameter to 5. |

5.37.3 Data Grouping

The data in the report will be grouped into each occurrence of the assets being on outage at the same time. Each occurrence group will be displayed on a separate page. Each group will have the heading of the period (start and end date/time) of the occurrence.

5.37.4 Data Ordering

Within each occurrence group the outages will be displayed in increasing outage number order.

Display the most recent occurrences first.

5.37.5 Data Selection

The main query for the report will be based upon the transmission outage (tra_outage) and linked assets (asset_out) table. The query must find all the times when all of the selected assets have been on outage at the same time. The outages dates used for the search must be either the actual (actual_start date and actual_end_date) or planned (start_date and end_date) dates as specified by the user.

Include planned outage records where:

- The outage is a planned outage (pending = 0).
- The outage status is either 'Planned', 'Started' or 'Complete'
- The outages are out of service
- The outage is in the specified date range (if one is entered). This check should be either performed on the planned or actual start/end dates as specified by the user.

If the user has entered a value in the 'maximum number of occurrences' field then the query should be restricted to displaying just this number of occurrences.

5.37.6 Report Details

5.37.6.1 Report Detail Report Layout

| | | | | |
|---------------|-----------------------|------------|----------|--------|
| Outage Number | Circuit / Description | Start Date | End Date | NASAPS |
|---------------|-----------------------|------------|----------|--------|

5.37.6.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|--|--|--|
| Outage Number | This field should be a hyperlink to the EditPlannedOutage screen passing the outage id. | tra_outage | tra_outage_id |
| Circuit / Description | basic_outage.description concatenated with tra_outage.additional_description (with a space between). | tra_outage and basic_outage (linked via basic_outage_id) | tra_outage.additional_description and basic_outage.description |
| Start Date | Format DD/MM/YYYY | tra_outage | start_date |
| End Date | Format DD/MM/YYYY | tra_outage | end_date |
| NASAPS | List of Asset Ids (NASAP Codes) and descriptions down the page | asset (joined by asset_out - all records where tra_outage_id matches the tra_outage record and where pending = 0.) | asset_id and description |

5.38 TOPAM – MIMS Download

This report was initially thought to be required for inclusion in the TOGA application but is now known not to be required. The Basic Outage Summary Download, delivered in Phase 1, has been developed in its place.

5.39 Transmission Outage Report (New)

This report was initially requested to be included in the TOGA application but is now known not to be required.

5.40 Outage History

This report was initially requested to be included in the TOGA application but is now known not to be required.

5.41 Single Outage Report

5.41.1 Description

This report allows the user to enter a known outage number and to view all the details of the planned or pending outage. There is the option only to view one of these outage types or to only view the main details. Have two buttons on the

parameter screen: one for displaying the report in pdf and the other for displaying it in Word in an rtf format.

5.41.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|--------------------------------------|-----------------------|---|
| Outage Number | Mandatory | |
| Outage Type (Pending, Planned) | 2 checkboxes | There are two checkboxes – Pending and Planned. Planned will be checked as default but Pending will not be. The checkboxes indicate the type(s) of outages included in the report. If neither checkboxes are checked then the report will contain no records. |
| Main Details Only | Checkbox | This checkbox is unchecked as default. If unchecked the report will only contain the main details of the outage(s). If checked then the report will contain the main details on the first page and the additional details on the following page(s). |

5.41.3 Data Grouping

The data from a single outage will be grouped with the main details on the first page and the remaining details on the following page(s).

5.41.4 Data Ordering

The planned outage will be displayed before the pending outage.

5.41.5 Data Selection

If the user has checked the ‘Planned’ checkbox then the numbered planned outage will be selected.

If the user has checked the ‘Pending’ checkbox then the numbered pending outage will be selected (if one exists)

The outage number viewed by TO user should be in its licensed area (2071)

5.41.6 Report Details

5.41.6.1 Main Outage Details Layout

| | | | | | | | | |
|-----------------------|---------------|----------|----------|-----------------|-----------|----------|------------|------------|
| Outage Number | Year | Status | Type | Basic Reference | C/D | ERTS Day | ERTS Night | In Service |
| Circuit / Description | Work Involved | | | | | | | |
| Start Date | Finish Date | PFW Date | PER Time | APA Time | ISOS Time | PFW Time | RTS Time | |

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| | | | | | | | | |
|-------------|---------------------|-----------------|-----------------|------------------|------------|------------|------------------|-------------------------|
| TO Comments | Rating Adjustment | TO Significance | TO Lead Planner | | | | | |
| SO Comments | Operational Remarks | SO Lead Planner | SO Impact | | | | | |
| Work Types | Free Codes | Substations | Assets | Tower References | TO Parties | SO Parties | External Parties | External Party Comments |

These details should fit onto a single page.

Each of the fields shown in this layout should have the field title placed above the data value.

5.41.6.2 Main Outage Details Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|--|--|--|
| Outage Number | | tra_outage | tra_outage_id |
| Year | | tra_outage | plan_year |
| Status | | tra_outage | status |
| Type | | tra_outage | outage_type |
| Basic Reference | | tra_outage | basic_outage_id |
| C/D | Display 'C' for 1 and 'D' for 0. | tra_outage | continuous |
| ERTS Day | | tra_outage | erts_day |
| ERTS Night | | tra_outage | erts_night |
| In Service | Display 'In Service' for 1 and 'Out of Service' for 0 | tra_outage | service |
| Circuit / Description | basic_outage.description concatenated with tra_outage.additional_description (with a space between). | tra_outage and basic_outage (linked via basic_outage_id) | tra_outage.additional_description and basic_outage.description |
| Work Involved | | tra_outage | work_involved |
| Start Date | Format DD/MM/YYYY | tra_outage | start_date |
| End Date | Format DD/MM/YYYY | tra_outage | end_date |
| PFW Date | Format DD/MM/YYYY | tra_outage | pfw_date |
| PER Time | Format HHMI (24 hours) | tra_outage | per_date |
| APA Time | Format HHMI (24 hours) | tra_outage | planned_apa |
| ISOS Time | Format HHMI (24 hours) | tra_outage | start_date |
| PFW Time | Format HHMI (24 hours) | tra_outage | pfw_date |
| RTS Time | Format HHMI (24 hours) | tra_outage | end_date |
| TO Comments | | tra_outage | tra_owner_comm. |
| Rating Adjustment | | tra_outage | availability |
| TO Significance | | tra_outage | to_significance |
| TO Lead Planner | | tra_outage | to_lead_planner |

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| Report | Notes / Transformations | Database Table | Database Column |
|---------------------|---|---|---------------------|
| SO Comments | | tra_outage | so_comments |
| Operational Remarks | | tra_outage | operational_remarks |
| SO Lead Planner | | tra_outage | so_lead_planner |
| SO Impact | | tra_outage | so_significance_id |
| Work Types | List of DCD Ids down the page | dcd_out - all records where tra_outage_id and pending match the tra_outage record. | dcd_id |
| Free Codes | List of Free Codes down the page | tra_outage_free_code - all records where tra_outage_id and pending match the tra_outage record. | fce_free_code_id |
| Substations | List of Substation Ids down the page | tra_outage_sub - all records where tra_outage_id and pending match the tra_outage record. | substation_id |
| Assets | List of Asset Ids (NASAP Codes) down the page | asset_out - all records where tra_outage_id and pending match the tra_outage record. | asset_id |
| Tower References | List of Tower References down the page | basic_tower_ref - all records where basic_outage_id matches that on the tra_outage record. | basic_tower_id |
| TO Parties | List of TO Parties down the page | party_link - all records where party_type = 'TO' and linked_table_type = 'TRA_OUTAGE' and | party_id |

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| Report | Notes / Transformations | Database Table | Database Column |
|-------------------------|--|--|-------------------|
| | | linked_table_id and pending = the tra_outage_id and pending on the tra_outage record. | |
| SO Parties | List of SO Parties down the page | party_link - all records where party_type = 'SO' and linked_table_type = 'TRA_OUTAGE' and linked_table_id and pending = the tra_outage_id and pending on the tra_outage record. | party_id |
| External Parties | List of External Parties down the page | party_link - all records where party_type = 'OWN' and linked_table_type = 'TRA_OUTAGE' and linked_table_id and pending = the tra_outage_id and pending on the tra_outage record. | party_id |
| External Party Comments | The comments for the listed External Parties. <i>Validation:</i> Users should not be able to view external party comments unless they are authorised to view this data.(1570) | party_link (the same record as selected for the external party above | ext_party_comment |

5.41.6.3 Additional Outage Details Layout

| Fault Type | Fault Identifier | Responsible Engineer | Plant Equip Group | Reference |
|-------------------|------------------|----------------------|-------------------|-----------|
| Fault Description | Fault Comment | Fault SO Comment | | |

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| | | | | | |
|--------------------------------|--------------------------------|---------------------------|----------------------------|---------------|-------------------------------|
| Risk Type(s) | Risks | Winter ERTS Risk | | | |
| TPSO/Switching Issues | Outage Justification | Mitigating Actions | | | |
| Decision | In-week Decisions | | | | |
| Cost Risk Summary | Strategy | OSG Actions | | | |
| Cost/Week£K | Chance of occurring (%) | Central Forecast | Actual out-turn | Status | Lead Planning Engineer |
| Initial Placement Notes | Optimisation Notes | | | | |
| Delivery Notes | Control Room Notes | | | | |
| Linked Outage No | Start Date | End Date | Circuit/Description | | |
| Commissioning ID | Effective Date | Description | | | |

5.41.6.4 Additional Outage Details Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|-----------------------|---|
| Fault Type | | tra_outage | fault_type |
| Fault Identifier | Only display if the user has View/Edit Fault Information security permission | tra_outage | fault_identifier |
| Responsible Engineer | Only display if the user has View/Edit Fault Information security permission | tra_outage | fault_engineer |
| Plant Equip Group | Only display if the user has View/Edit Fault Information security permission | tra_outage | plant_equipment_group |
| Reference | Only display if the user has View/Edit Fault Information security permission | tra_outage | fads_number |
| Fault Description | Only display if the user has View/Edit Fault Information security permission | tra_outage | fault_description |
| Fault Comment | Only display if the user has View/Edit Fault Information security permission | tra_outage | fault_comment |
| Fault SO Comment | Only display if the user has View/Edit Fault Information security permission | tra_outage | o_t_comment |
| Risk Type(s) | Display checkboxes for the three risk types. Only display the Winter ERTS Risk and Demand at Risk checkboxes if the user has View/Edit Risk security permission. Only display the Cost Risk checkbox if the user has View/Edit Cost Risk security permission. | tra_outage | winter_erts_risk, demand_at_risk, cost_risk |
| Risks | Only display if the user has View/Edit Risk security permission. | tra_outage | risk |
| Winter ERTS Risk | Display as above | tra_outage | winter_erts_comment |
| TPSO/Switching Issues | Display as above | tra_outage | tpso_issues |
| Outage Justification | Display as above | tra_outage | outage_justification |
| Mitigating Actions | Display as above | tra_outage | mitigating_actions |

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| Report | Notes / Transformations | Database Table | Database Column |
|-------------------------|--|---|------------------------|
| Decision | Display as above | tra_outage | decision |
| In-week Decisions | Display as above | tra_outage | inweek_decision |
| Cost Risk Summary | Only display if the user has View/Edit Cost Risk security permission. | tra_outage | cost_risk_text |
| Strategy | Display as above | tra_outage | strategy |
| OSG Actions | Display as above | tra_outage | osg_actions |
| Cost/Week | Display as above | tra_outage | cost_week |
| Chance of occurring | Display as above | tra_outage | pct_cost_chance |
| Central Forecast | Display as above | tra_outage | central_forecast |
| Actual out-turn | Display as above | tra_outage | out_turn |
| Status | Display as above | tra_outage | cost_risk_status |
| Lead Planning Engineer | Display as above | tra_outage | cost_risk_lead_planner |
| Initial Placement Notes | Only display if the user has View/Edit Initial Placement Notes security permission | tra_outage | gbso_year_comm. |
| Optimisation Notes | Only display if the user has View/Edit Optimisation Notes security permission | tra_outage | gbso_optim_comm. |
| Delivery Notes | Only display if the user has View/Edit Delivery Notes security permission | tra_outage | gbso_deliv_comm |
| Control Room Notes | Only display if the user has View/Edit Control Room Notes security permission | tra_outage | control_comments |
| Linked Outage No | | linked_outage (all records where linking_outage = current tra_outage_id) | outage_number |
| Start Date | | if linked_outage. gen_outage = 0 tra_outage (where tra_outage_id = the linking_outage value) otherwise generator_outage (where generator_outage_id = linking_outage value) | start_date |

| Report | Notes / Transformations | Database Table | Database Column |
|---------------------|---|---|--|
| End Date | | As above | end_date |
| Circuit/Description | If a generator outage then display 'Generator Outage on generating_unit_name otherwise display the transmission outage circuit/description (from tra_outage/basic_outage.description and the tra_outage.additional_description. | if linked_outage.gen_outage = 0 tra_outage (where tra_outage_id = the linking_outage value) otherwise generator_outage (where generator_outage_id = linking_outage value) | tra_outage/basic_outage.description + additional_description |
| Commissioning ID | | outage_commissioning_link (all records matching the tra_outage_id) | commissioning_id |
| Effective Date | | commissioning (matching the commissioning_id) | effective_date |
| Description | | commissioning (matching the commissioning_id) | nature_of_change |

5.42 Transmission Outage Plan (Publish to Web functionality)

5.42.1 Description of Changes

When an administrator (with the Publish Transmission Outage Plan Report security permission) selects the Transmission Outage Plan report they will have an additional button 'Publish Report'. When they press this button the report will run as usual but will be saved to a pdf file on the application server (to a directory named in a system parameter). A record will be written to the database holding the name of the file and the date when the report was run. The process will also delete the records (and associated files) of old reports more than a (system parameter defined) number of days old.

5.42.2 Parameter Page Changes

Add a new button to the page called 'Publish Report'. This button should only be displayed to users with the Publish Transmission Outage Plan Report security permission.

When this button is pressed the system should create a file name (ideally this should be of the format TransPlanYYMMDDHHMM (where YYMMDDHHMM is the current date and time)), select the Published Plans Directory name from the appropriate system parameter, concatenate the directory and file name and write a record to the published_outage_plans table for the file name including the directory (in the file_name field) and the current date/time (in the published_date field).

The parameter page should call the report as normal but should pass the file name to the report in the p_file_name parameter.

The system should delete published transmission plans which are more than the system parameter 'Delete Transmission Plans Older Than' days old. This deletion should be the published_outage_plans records and also the associated files.

5.42.3 Report Changes

If the report has been called in Publish Report mode (i.e. if there is a value in the p_file_name parameter) then generate the report as normal but save the report in the file specified.

5.43 Risk Report – Planned Outages

5.43.1 Description

The report will consist of a header (parameter) page and a list of the risk outages that start, end in the specific date.

The outage data displayed will be the planned outages which:

- ✓ are between start, end the parameter dates
- ✓ include the SO party parameter (if chosen) default for all
- ✓ include the TO party parameter (if chosen) default for all
- ✓ Only include risk outages (one or more of risk flags are set viz. Winter ERTS Risk, Cost Risk, Demand at Risk)
- ✓ Status equal to selected status from the list (values Planned, started, completed)

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- ✓ If opted for, then outages 'not in plan' i.e. with status either of (cancelled, Not Taken or TBA outages).

5.43.2 Report Parameters

| Parameter | Mandatory Optional | Other |
|----------------------------|---------------------------------------|--|
| Start Date | Mandatory | Format DD/MM/YYYY with calendar help |
| End Date | Mandatory | Format DD/MM/YYYY with calendar help |
| Outages With Risk flag set | Optional, At least one to be selected | Default unclick Click means Outage will get select if any one of risk flag set (ERTS Risk, Cost Risk, Demand at Risk) |
| SO Parties | Optional | List of SO parties |
| TO Parties | Optional | List of TO parties |
| Planned Status | Optional | List of (Planned, Started and complete). If none selected, to display outages with status either of (Planned, Started and complete). |
| Non planned Status | Optional, Checkbox | Checkbox. If checked, to show outages with status either of (cancelled, Not Taken or TBA outages) in addition to the outages selected for 'Planned status' |

5.43.3 Data Sequence

Start on parameter date / End on parameter date

Within the above groupings the data will be displayed in ascending start date and then end date order

5.43.4 Data Ordering

None.

5.43.5 Risk Report

5.43.5.1 Detailed Layout

| Outage Number | Circuit / Description | Start Date | End Date | Detail of work | ERTS N | ERTS D | PARTIES |
|---------------|-----------------------|------------|----------|----------------|--------|--------|---------|
| Risks | | | | | | | |
| TPSO | | | | | | | |
| Justification | | | | | | | |
| Mitigation | | | | | | | |
| Decision | | | | | | | |
| In Week | | | | | | | |
| Authorised | | | | | | | |

5.43.5.2 Report Field to Database Field Mapping

| Report | Notes / Transformations | Database Table | Database Column |
|-----------------------|---|--|---|
| Outage Number | | tra_outage | tra_outage_id |
| Circuit / Description | If tra_outage.basic_outage_id is not null then use basic_outage.description else use tra_outage.description. In either case concatenate tra_outage.additional_description on the end with a space between | tra_outage and /or basic_outage | description and/or additional_description |
| Start date | Format DD/MM/YY | tra_outage | start_time |
| PER date/time | Format DD/MM/YY | tra_outage | planned_early_release |
| Detail of Work | Text spanning multiple lines | tra_outage | work_involved |
| ERTS N | ERTS Day | tra_outage | ERTS_DAY |
| ERTS D | ERTS Night | tra_outage | ERTS_NIGHT |
| Parties | Multiple values listed down the page | party_link where linked_outage_type = TRA_OUTAGE and linked_table_id = tra_outage_id | party_id |
| Risk | Text spanning multiple lines | tra_outage | Risk |
| TPSO | Text spanning multiple lines | Tra_outage | TPSO_ISSUES |
| Justification | Text spanning multiple lines | Tra_outage | OUTAGE_JUSTIFICATION |
| Mitigation | Text spanning multiple lines | Tra_outage | MITIGATING_ACTIONS |
| Decision | Text spanning multiple lines | Tra_outage | DECISION |
| In week | Text spanning multiple lines | Tra_outage | INWEEK_DECISION |
| Authorized | Text spanning multiple lines | Tra_outage | PLACED_IN_PLAN |

6. REQUEST UPLOAD

6.1 Description

Data from the Transmission Owners will be uploaded into the TOGA Request area.

6.2 Interface Type

6.2.1 Medium

Flat CSV file.

6.2.2 Remote actions

The 'outages' will be produced in a CSV file.

6.2.3 TOGA actions

The TOGA database will: -

- ✓ Upload the produced CSV data file of outages from a directory location.
- ✓ Display the status of the submission's success both on screen and within a flat file to be picked up by the TO.

6.3 Frequency

Ad hoc

6.4 TOGA Initiation Method

6.4.1 Trigger

When requested by TOGA system user.

6.4.2 User Interaction

The user will navigate TOGA to the Upload Outages option and then specify the file to upload.

6.4.3 Report

N/A

6.5 Interface Location

The user can specify where each individual file will be.

6.6 Data

6.6.1 CSV data fields

The data must be provided in a comma-separated format. Each alphanumeric field must begin and end with double quote characters. This means that double quote characters must not appear within the text of a field.

| | Field | Mandatory | Format | Maximum Length |
|---|--------------------|------------------|--|-----------------------|
| 1 | <i>Record Type</i> | <i>Yes</i> | <i>Alphanumeric This single character field indicates the purpose of the record. The following values are valid:</i> | <i>1</i> |

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| | Field | Mandatory | Format | Maximum Length |
|---|--------------------------------------|--|---|---------------------------------|
| | | | 'A' (New request for a new planned outage), 'U' (New request for an update to a planned outage), 'C' (New request for the cancellation of a planned outage), 'D' (New request for a new DNO Outage) or 'R' (An update to an existing request) | |
| 2 | <i>Request Number</i> | Yes for record type 'R' otherwise not required | Alphanumeric | 10 |
| 3 | <i>Request Status</i> | Yes for record types 'A', 'U', 'C' and 'D'. Optional for record type 'R'. | Alphanumeric Either 'Initial' or 'With SO' for record types 'A', 'U', 'C' or 'D'. Can be 'Cancelled' for record type 'R'. | 20 |
| 4 | <i>Outage Number</i> | Required for record types 'U' and 'C'. Also required for record types 'A' and 'D' if the user's TO definition does not allow auto generation of the outage number | Alphanumeric Up to 2 characters followed by up to 6 digits. See section 0 for validation details | 8 |
| 5 | <i>Plan Year</i> | Yes for record types 'A', 'D' and 'R'. | Numeric (Integer) | 4 digit year |
| 6 | <i>Basic Reference</i> | Yes for record types 'A', 'D', 'U', and 'R'. | Alphanumeric | 10 – valid basic ref for the TO |
| 7 | <i>Additional outage description</i> | No | Alphanumeric | 30 |
| 8 | <i>Detail of Work</i> | Yes for record types 'A', 'R' and 'U'. | Alphanumeric | 1000 |

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| | Field | Mandatory | Format | Maximum Length |
|----|---|---|---|--|
| 9 | <i>Requestor or required by</i> | No | <i>Alphanumeric</i> | <i>Either a valid TO party code or one of the interested parties (This will be set to the user's TO party if not supplied) Length 10</i> |
| 10 | <i>TO priority (significance)</i> | No | <i>Numeric (Integer)</i> | <i>1 (values 1 – 5)</i> |
| 11 | <i>TO comments.</i> | <i>Yes for record type 'C'.</i> | <i>Alphanumeric</i> | <i>1000</i> |
| 12 | <i>Suggested Start date & Time</i> | <i>See 'Date validation' section (0)</i> | <i>Datetime</i> | <i>Length 16 DD/MM/YYYY HH:MI</i> |
| 13 | <i>Suggested End date & Time</i> | <i>See 'Date validation' section (0)</i> | <i>Datetime</i> | <i>Length 16 DD/MM/YYYY HH:MI</i> |
| 14 | <i>APA (Authorised Person Attendance) Date & time</i> | No | <i>Datetime</i> | <i>Length 16 DD/MM/YYYY HH:MI</i> |
| 15 | <i>Duration</i> | <i>See 'Date validation' section (0)</i> | <i>Alphanumeric</i> | <i>Length 5 Number of days duration specified to the nearest half day</i> |
| 16 | <i>Outage window start</i> | <i>See 'Date validation' section (0)</i> | <i>Datetime</i> | <i>Length 16 DD/MM/YYYY HH:MI</i> |
| 17 | <i>Outage window end</i> | <i>See 'Date validation' section (0)</i> | <i>Datetime</i> | <i>Length 16 DD/MM/YYYY HH:MI</i> |
| 18 | <i>ERTS day</i> | <i>Yes for record types 'A', 'R' and 'D'.</i> | <i>Alphanumeric; can either be 'ONCOM' or be up to four digits followed by the single character 'M'(Minutes), 'H'(Hours), 'D'(Days), 'W'(Weeks) e.g. 55H.</i> | <i>5</i> |
| 19 | <i>ERTS night</i> | <i>Yes for record types 'A', 'R' and 'D'.</i> | <i>Alphanumeric can either be 'ONCOM' or be up to four digits followed by the single character 'M'(Minutes), 'H'(Hours), 'D'(Days), 'W'(Weeks) e.g. 55H.</i> | <i>5</i> |
| 20 | <i>TO person</i> | Yes | <i>Alphanumeric</i> | <i>Length 50</i> |

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| | Field | Mandatory | Format | Maximum Length |
|----|---------------------------|---|------------------------------------|---------------------------------------|
| | | | | <i>Valid TO user id</i> |
| 21 | <i>Outage Code 1</i> | <i>Yes for record types 'A', 'R' and 'D'.</i> | <i>Alphanumeric</i> | <i>Length 3 Valid DCD code</i> |
| 22 | <i>Outage Code 2</i> | <i>No</i> | <i>Alphanumeric</i> | <i>Length 3 Valid DCD code</i> |
| 23 | <i>Outage Code 3</i> | <i>No</i> | <i>Alphanumeric</i> | <i>Length 3 Valid DCD code</i> |
| 24 | <i>Outage Code 4</i> | <i>No</i> | <i>Alphanumeric</i> | <i>Length 3 Valid DCD code</i> |
| 25 | <i>Daily / Continuous</i> | <i>Yes for record types 'A', 'R' and 'D'.</i> | <i>Alphanumeric 'D' or 'C'</i> | <i>1</i> |
| 26 | <i>Service</i> | <i>Yes for record types 'A', 'R' and 'D'.</i> | <i>Alphanumeric 'Y' or 'N'</i> | <i>1</i> |
| 27 | <i>Change Code</i> | <i>See 'Freeze date validation' section (0)</i> | <i>Alphanumeric</i> | <i>Length 4 Valid Change Code</i> |
| 28 | <i>Change description</i> | <i>See 'Freeze date validation' section (0)</i> | <i>Alphanumeric</i> | <i>50</i> |
| 29 | <i>Availability</i> | <i>No</i> | <i>Numeric (Integer)</i> | <i>Length 3 0 – 100 (%)</i> |
| 30 | <i>Fault</i> | <i>No</i> | <i>Alphanumeric "Y" or "N"</i> | <i>1</i> |

6.6.2 Data validation

File validation

If an error is found then the whole file will be rejected. A status file will be created and presented to the user as specified in the 'Status and Error File' section 6.6.3. It is expected that the user will correct the data in their bespoke outage management system and then resubmit a newly generated file. The data will only be committed to the database if all of the data passes the validation.

If a record contains an incorrect number of data items then the record will be rejected with error number A01.

If the Record Type field is not entered then the record will be rejected with error number A02. If the field does not contain either 'A', 'U', 'C', 'D' or 'R' then the record will be rejected with error number A03.

Date validation

For record types 'A' or 'D' either both the start date and end date must be supplied and/or the duration, start window and end window must all be supplied.

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If the record does not have the necessary fields entered then the record will be rejected with error number A45.

Freeze date validation

For record types 'A', 'U' or 'C', if the system date when the file is submitted, is after the freeze date for the plan year for that TO then the Change Code and Change Description must be supplied. If any of these fields are not supplied then the record will be rejected with error number A48.

Validation of record type 'R'

For record type 'R' (a change to an existing request) the request number must be specified. If it is not supplied then the record will be rejected with error number A54. If the supplied request number is not for a request in the user's licensed area or is of a status of which the user cannot modify data at (e.g. Cancelled, Pending, Planned) then the record will be rejected with error number A55.

In addition for record type 'R' the following validation will be applied:

| Error number | Description |
|--------------|---------------------------------|
| A09 | Basic Reference missing |
| A10 | Detail of work not supplied |
| A12 | ERTS day not provided |
| A13 | ERTS night not provided |
| A14 | Outage code not provided |
| A15 | Daily / Continuous not provided |
| A16 | Service not provided |
| A17 | Plan year not provided |

Validation of record type 'C'

For record type 'C' then the only required fields are the Outage Number, a TO comment (to hold the cancellation reason), Request Status and TO Person. If the Outage Number is not entered then the record will be rejected with error number A04. If the Outage Number is not the number of an existing non cancelled planned outage for the TO then the record will be rejected with error number A05. If the outage number is for an outage that already has an active request associated with it then the record will be rejected with error number A11. If the TO comment has not been entered then the record will be rejected with error number A06. If the Request Status has not been supplied then the record will be rejected with error number A57 and if the status is not either 'Initial' or 'With SO' then the record will be rejected with error code A56. If Submission is after the freeze date, 2.6.2.3 freeze date validation will also apply.

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Validation of record types 'A', 'D' and 'U'

If the record type is 'A' then the Outage Number must be entered if the transmission owner definition specifies that an outage number must be specified otherwise the record will be rejected with error number A49. If the record type is 'D' then the Outage Number must be entered.

If an Outage Number is entered then it must not be the number of an existing planned outage nor can it be the Outage Number on an existing non-cancelled request. If the Outage Number is already in use then the record will be rejected with error number A07. If the outage number is for an outage that already has an active request associated with it then the record will be rejected with error number A11. If an outage number is supplied then it must be in the correct format. An outage of record type 'A' must start with the TO's prefix (see "section 9.3 Request Status Codes" for valid prefix values). An outage of record type 'D' must start with the prefix for the DNO owning the equipment on the basic outage. If the outage number is not of the correct format with the correct prefix then the record is rejected with error number A20.

If the record type is 'A' or 'D' then the following validation will be applied:

| Error number | Description |
|--------------|---------------------------------|
| A57 | Request Status not supplied |
| A12 | ERTS day not provided |
| A13 | ERTS night not provided |
| A14 | Outage code not provided |
| A15 | Daily / Continuous not provided |
| A16 | Service not provided |
| A17 | Plan year not provided |

If the record type is 'U' the Outage Number must be the number of an existing planned outage. If not then the record is rejected with error number A08. If the Request Status has not been supplied then the record will be rejected with error number A57. These are the only required fields. The only other fields that should be supplied are those that are to be changed from the value on the planned outage.

If the record type is 'A', 'D' or 'U' then the Basic Reference must be supplied. If not then the record is rejected with error number A09.

If the record type is 'D' then the Basic Reference provided must have a DNO as the equipment owner. If not then the record is rejected with error number A58.

If the record type is 'A', 'D' or 'U' then the following validation will be applied to the fields if entered:

| Error number | Description |
|--------------|--|
| A18 | Basic reference not a known basic reference for the TO |
| A19 | Additional outage description greater than 30 characters |
| A21 | Outage number belongs to a cancelled outage |

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| Error number | Description |
|--------------|--|
| A22 | Detail of Work more than 1000 characters |
| A23 | Requestor or required by not a valid TO or external party code |
| A24 | TO priority (significance) not a single character between 1 to 5 |
| A25 | TO comments greater than 1000 characters |
| A26 | Suggested Start date/Time not a valid date in correct format |
| A27 | Suggested End date/Time not a valid date in correct format |
| A28 | APA Date & time not a valid date in correct format |
| A29 | Duration not a number |
| A30 | Outage window start not a valid date in correct format |
| A31 | Outage window end not a valid date in correct format |
| A32 | ERTS day not in specified format |
| A33 | ERTS night not in specified format |
| A34 | TO person not a valid TO user Id |
| A35 | Outage Code 1 not a Work Type defined to TOGA |
| A36 | Outage Code 2 not a Work Type defined to TOGA |
| A37 | Outage Code 3 not a Work Type defined to TOGA |
| A38 | Outage Code 4 not a Work Type defined to TOGA |
| A39 | Daily / Continuous not 'C' or 'D' |
| A40 | Service not 'Y' or 'N' |
| A41 | Change Code not a Change Code for the TO or ALL TOs |
| A42 | Change description more than 50 characters |
| A43 | Plan Year not defined in TOGA for the TO |
| A44 | Availability not an integer between 0 and 100 |
| A46 | End date is not after the start date (if entered) |
| A47 | End window is not after the Start window (if entered) |
| A56 | Status is not either 'Initial' or 'With SO' |
| A59 | Fault field not 'Y' or 'N' |

In addition if the record type is 'A' or 'U' then the following validation will be applied:

| Error number | Description |
|--------------|-----------------------------|
| A10 | Detail of work not supplied |

Processing

When the file is successfully validated and saved to the database a Batch Upload Sequence number will be written to the status file and displayed on the screen, along with the success message and the number of records successfully uploaded. The Batch Upload Sequence number will be written to all the new request records (record types 'A', 'U', 'C' or 'D') saved to the database. It will be possible in TOGA to query requests using this sequence number allowing the user to track the progress of the requests. The Outage Number can also be used to track individual outages.

For record type 'R', if the Request Status supplied is 'Cancelled' then the status of the request will be set to 'Cancelled'.

For record type 'R', if any of the non mandatory fields are not supplied then a blank value will be written to TOGA. Therefore if a value is to be unchanged the input record should contain the current existing value for the field.

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If any of the records of type 'A' or 'D' in the file did not contain an Outage Number TOGA will create a unique reference number, prefixed with 'NG', for the outage.

For records of type 'A', 'U', 'C' or 'D' the system will generate a unique request number.

For record type 'A' where the Basic Reference is for a Comment basic outage, the Service field will automatically be set to 'Y' overriding the Service value in the file.

If the TO priority field has not been supplied for record type 'A' or 'D' then the field should be automatically set to 5. If the field has not been provided for a record type 'U' then it should be set to the value on the associated planned outage record.

If the Fault field has not been supplied then the field will automatically be set to 'N'.

6.6.3 Status and Error File

An output **CSV** file will be created and presented to the user for either viewing or saving. The output file will contain a header row and then one row per row of the input file.

If any of the records in the input file failed validation then the input file will be rejected. The header row in the output file will contain the text 'REJECTED'. The following rows will contain the following data:

| | Field | Format | Description |
|---|----------------------|---------------------|--|
| 1 | <i>Outage Number</i> | <i>Alphanumeric</i> | <i>The number of the outage associated with the request.</i> |
| 2 | <i>Error number</i> | <i>Alphanumeric</i> | <i>The error message number</i> |
| 3 | <i>Description</i> | <i>Alphanumeric</i> | <i>The description of the error.</i> |

If all of the records in the input file passed the validation then the input file will be accepted. The header row in the output will contain the text 'ACCEPTED'. The following rows will contain the following data:

| | Field | Format | Description |
|---|------------------------|---------------------|---|
| 1 | <i>Request Number</i> | <i>Alphanumeric</i> | <i>The unique identifier for the request.</i> |
| 2 | <i>Outage Number</i> | <i>Alphanumeric</i> | <i>The number of the outage associated with the request.</i> |
| 3 | <i>Sequence Number</i> | <i>Numeric</i> | <i>The batch sequence number (will be the same value for all records in the file)</i> |

7. BASIC OUTAGE DOWNLOAD

7.1 *Description*

Download basic outage information in a flat delimited file, which could then be uploaded into the Transmission Owners own outage database.

7.2 *Interface Type*

7.2.1 **Medium**

Flat CSV file

7.2.2 **Remote actions**

None

7.2.3 **TOGA actions**

The TOGA database will: -

- ✓ Download a CSV file

7.3 *Frequency*

Ad hoc

7.4 *TOGA Initiation Method*

7.4.1 **Trigger**

When requested by TOGA system user.

7.4.2 **User Interaction**

The user will select the Basic Outage Download option from the Reports menu. The user can specify whether to have the full download or just the summary. The summary download contains all the same records as the full download but only the Basic Reference and Outage Equipment Description fields are included in the file.

7.4.3 **Report**

TOGA will create a CSV file containing the basic outage records. The alphanumeric fields will start and end with a double quote character. In the case of a field that contains multiple alphanumeric values, Branch Assets for example,

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a double quote will be placed before the first item and after the last. The file will include all basic outage records for the TO in increasing Basic Reference order.

| | Field | Format | Maximum Length | Mandatory |
|----|------------------------------|---|--|------------------|
| 1 | Basic Reference | Alphanumeric | 10 | Yes |
| 2 | Status | Alphanumeric | 20 | Yes |
| 3 | Outage Equipment Description | Alphanumeric | 150 | |
| 4 | Outage Type | Alphanumeric | Length 10 Values 'Standard' or 'Comment' | Yes |
| 5 | Branch Assets | Multiple alphanumeric values delimited by ',' | 200 Multiple values – up to 6 characters per Asset. | |
| 6 | Substations Involved | Multiple alphanumeric values delimited by ',' | 200 Multiple values – up to 6 characters per Substation | Yes |
| 7 | SO Significance | Alphanumeric Single character | 1 | Yes |
| 8 | External Interested Parties | Multiple alphanumeric values delimited by ',' | 200 Multiple values – up to 10 characters per party | |
| 9 | External party comments | Multiple alphanumeric values delimited by ',' | 20,000 Multiple values – up to 1000 characters per party. The comments will be in the same order as the associated parties (above). | |
| 10 | GBSO Interested Parties | Multiple alphanumeric values delimited by ',' | 200 Multiple values – up to 10 characters per party | |
| 11 | TO Interested Parties | Multiple alphanumeric values delimited by ',' | 200 Multiple values – up to 10 characters per party | |
| 12 | Operational Comments | Alphanumeric | 1000 | |
| 13 | Licensed Area | Alphanumeric | 5 | Yes |
| 14 | Valid From | DD/MM/YYYY | 10 | Yes |
| 15 | Valid To | DD/MM/YYYY | 10 | |
| 16 | Last Updated Date | DD/MM/YYYY HH:MI | 16 | Yes |
| 17 | Last Updated By | Alphanumeric | 50 | Yes |
| 18 | Equipment owner | Alphanumeric | 10 | Yes |
| 19 | Basic Group | Alphanumeric | 10 | |
| 20 | Free Codes | Multiple | 200 | |

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| | <i>Field</i> | <i>Format</i> | <i>Maximum Length</i> | <i>Mandatory</i> |
|----|------------------|---|--|------------------|
| | | alphanumeric values delimited by ‘;’ | Multiple values – up to 7 characters per free code | |
| 21 | Tower References | Multiple alphanumeric values delimited by ‘;’ | 200 Multiple values – up to 10 characters per reference | |
| 22 | Risk Flag | Alphanumeric ‘Y’ or ‘N’ | 1 | Yes |
| 23 | Demand at Risk | Alphanumeric | 1000 | Yes |

7.5 Interface Location

The file will be placed in a directory accessible by the user’s machine, as specified by the user.

7.6 Validation

External party comments: Users should not be able to view external party comments unless they are authorised to view this data. (1570)

8. OUTAGE CHANGES DOWNLOAD

8.1 Description

Download planned outage and request information and in a flat CSV file, which could then be uploaded into the Transmission Owners own outage database. The file will contain planned outage records that have been added or changed since the entered parameter date and also request records that have been added or had their status changed since the entered parameter date but which have not yet been accepted into the plan.

8.2 Interface Type

8.2.1 Medium

Flat CSV file

8.2.2 Remote actions

The ‘outages’ will be produced in a CSV file.

8.2.3 TOGA actions

The TOGA database will: -

- ✓ Download a CSV file

8.3 Frequency

Ad hoc

8.4 TOGA Initiation Method

8.4.1 Trigger

When requested by TOGA system user.

8.4.2 User Interaction

The user will select the Outage Changes Download option from the Reports menu. The user must enter, as report parameters: the plan year; the licensed area and an 'include changes since' date/time field (this field will default to the last time the user ran this download). The licensed area will be set to the user's own licensed area for TO users.

8.4.3 Report

TOGA will create a CSV file containing the changed outage records. The alphanumeric fields will start and end with a double quote character. The file will include all planned outage records for the specified licensed area and plan year, which have had their key field(s) changed since the 'include changes since' date/time entered as a report parameter. The file will also include requests that are not yet accepted but have been added or had their status changed since the 'include changes since' date/time. The outages will be written in increasing outage number order.

| | Field | Format | Maximum Length | Mandatory |
|---|----------------------------------|----------------------------------|--|------------------|
| 1 | Record type | Alphanumeric | Length 7 Values 'Planned' or 'Request' | Yes |
| 2 | Outage status | Alphanumeric | 10 | |
| 3 | Request Number | Alphanumeric | 10 | |
| 4 | Request Status | Alphanumeric | 20 | |
| 5 | Batch Upload Sequence number | Numeric (Integer) See note 1. | 10 | |
| 6 | Additional outage description | Alphanumeric | 30 | |
| 7 | Outage number | Alphanumeric | 8 | Yes |
| 8 | Basic Reference | <i>Alphanumeric</i> | 10 | |

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| | Field | Format | Maximum Length | Mandatory |
|----|------------------------|-------------------------|-----------------------|------------------|
| 9 | ERTS day | Alphanumeric | 5 | |
| 10 | ERTS night | Alphanumeric | 5 | |
| 11 | Daily / Continuous | Alphanumeric 'D' or 'C' | 1 | Yes |
| 12 | Service | Alphanumeric 'Y' or 'N' | 1 | Yes |
| 13 | SO comments | Alphanumeric | 1000 | |
| 14 | SO Person | Alphanumeric | 50 | |
| 15 | Agreed Start date/time | DD/MM/YYYY HH:MI | 16 | Yes |
| 16 | Agreed End date/time | DD/MM/YYYY HH:MI | 16 | Yes |
| 17 | Operational Comments | Alphanumeric | 1000 | |
| 18 | Fault | Alphanumeric 'Y' or 'N' | 1 | Yes |

Note 1: This is the batch number assigned to the input file when the request was created.

8.5 Interface Location

The file will be placed in a directory accessible by the user's machine, as specified by the user. The file name will default to 'Outage Changes Since <DDMONYYYY HHMI>'.

9. REFERENCE DATA

9.1 Complete list of Request upload error messages

| Error number | Description |
|---------------------|---|
| A01 | Incorrect number of data items in file |
| A02 | Record Type not specified |
| A03 | Invalid Record Type |
| A04 | Outage number missing |
| A05 | Invalid Outage Number |
| A06 | Missing cancellation reason |
| A07 | Outage number not unique |
| A08 | Invalid outage number |
| A09 | Basic Reference missing |
| A10 | Detail of work not supplied |
| A11 | Planned outage already has an active request associated |
| A12 | ERTS day not provided |
| A13 | ERTS night not provided |
| A14 | Outage code not provided |
| A15 | Daily / Continuous not provided |
| A16 | Service not provided |

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| Error number | Description |
|--------------|---|
| A17 | Plan year not provided |
| A18 | Basic reference not a known basic reference for the TO |
| A19 | Additional outage description greater than 30 characters |
| A20 | Incorrect prefix on outage number |
| A21 | Outage number belongs to a cancelled outage |
| A22 | Detail of Work more than 1000 characters |
| A23 | Requestor or required by not a valid TO or external party code |
| A24 | TO priority (significance) not a single character between 1 to 5 |
| A25 | TO comments greater than 1000 characters |
| A26 | Suggested Start date/Time not a valid date in correct format |
| A27 | Suggested End date/Time not a valid date in correct format |
| A28 | APA Date & time not a valid date in correct format |
| A29 | Duration not a number |
| A30 | Outage window start not a valid date in correct format |
| A31 | Outage window end not a valid date in correct format |
| A32 | ERTS day not in specified format |
| A33 | ERTS night not in specified format |
| A34 | TO person not a valid TO user Id |
| A35 | Outage Code 1 not a Work Type defined to TOGA |
| A36 | Outage Code 2 not a Work Type defined to TOGA |
| A37 | Outage Code 3 not a Work Type defined to TOGA |
| A38 | Outage Code 4 not a Work Type defined to TOGA |
| A39 | Daily / Continuous not 'C' or 'D' |
| A40 | Service not 'Y' or 'N' |
| A41 | Change Code not a Change Code for the TO or ALL TOs |
| A42 | Change description more than 50 characters |
| A43 | Plan Year not defined in TOGA for the TO |
| A44 | Availability not an integer between 0 and 100 |
| A45 | Either the start date/end date or the duration/start window/end window must be supplied |
| A46 | End date is not after the start date (if entered) |
| A47 | End window is not after the Start window (if entered) |
| A48 | Change code and change description must be supplied |
| A49 | Missing outage number |
| A54 | Request number missing |
| A55 | Invalid request number |
| A56 | Status is not either 'Initial' or 'With SO' |
| A57 | Request Status not supplied |
| A58 | Basic Reference provided must have a DNO as the equipment owner |
| A59 | Fault field not 'Y' or 'N' |

9.2 Request Upload Allowable Status Codes

The status codes that can be used for outages in the upload file are as follows:

| Status Code |
|-------------|
| Initial |
| Cancelled |
| With SO |

9.3 Request Status Codes

Here is a list of the status codes that a request within TOGA can have and an indication of whether a request at that status is deemed to be active or not.

| Status Code | Active/Inactive |
|--------------|-----------------|
| Initial | Active |
| With SO | Active |
| Reassessment | Active |
| Rejected | Inactive |
| Agreed | Active |
| Pending | Active |
| In Plan | Inactive |
| Cancelled | Inactive |

9.4 Outage Status Codes

This list contains all the status codes that can be used for a planned outage.

| Status Code |
|-------------|
| Planned |
| Started |
| Complete |
| Cancelled |
| Not Taken |
| TBA |

9.5 Outage number prefixes

The outage numbers provided in the upload file should be prefixed as follows:

| Company | Outage Number Prefix |
|----------------------|----------------------|
| Scottish Power | SP |
| Scottish Power's DNO | SD |
| Scottish & Southern | SH |

DOCUMENT STATUS
PRODUCT DESCRIPTION REFERENCE
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AMENDMENT RECORD

| Issue | Draft | Date | Author | Description of changes |
|-------|-------|--------------------------------|-------------------------------|---|
| 1 | 1 | 03 rd February 2006 | Biraja Tripathy | Initial Version Update and Collate Issued TOGA documents listed below: 1. 0011 - TOGA - TOPAM Basic Data Design. 2. 0017 - TOGA Internal Specification Design. 3. 0018 - TOGA TO Interface Specification. 4. 0023 - TOGA - TOPAM Reports Design. 5. 0026 – TOGA - TOPAM Outage Request Design. 6. 0027 – TOGA - TOPAM Outage Management Design. 7. 0032 – TOGA - TOPAM Reporting Design. 8. 0035 – TOGA - Phase 2.1 Design. 9. 0039 – TOGA - Phase 2.1 Reporting Design. 10. 0041 – TOGA - TOPAM Commissioning Assets Design. 10. 0045 – TOGA - Phase 2.2 Design. 12. 0046 – TOGA - Phase 2.2 Reports Design. 13. 0048 – TOGA - Phase 2.2 Interface Design. 14. 0049 – TOGA - Phase 2.2 Additional Reports Design. |
| 1 | 2 | 13 th February 2006 | Biraja Tripathy | Updated with comments from Zensar's peer review. |
| 1 | 3 | 02 nd March 2006 | Biraja Tripathy | Updated with comments from Zensar's peer review. |
| 2 | 1 | 15 th March 2006 | Prasanna / Rishikesh (Zensar) | Updated with design changes, validations and other comments from the tracker database – For Release 1 under WP3484 Development work. |
| 2 | 2 | 29 th March 2006 | Rishikesh (Zensar) | Review comments from Ian G incorporated |
| 2 | - | 6 April 2006 | | |
| 3 | 1 | 05 October 2006 | Rishikesh Apte (Zensar) | Updated for Zensar Release 3 requirements (WP3484) |
| 3 | 2 | 13 October 2006 | Rishikesh Apte (Zensar) | Review comments from Afe Ogun and Ian G incorporated |

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