**Title: MarkeTrak Reporting Functionality**

The MarkeTrak application contains a vast amount of reporting options. Report types include Listing (which is the most common), Distribution, Duration, Trend, Dashboard and Other. A thorough explanation of each of these report types is available within the Help option which we will review later in this tutorial. Let’s begin now with a review of the MarkeTrak Reports navigation pane.

When a MarkeTrak User selects the Reports icon from the navigation pane, several options for reporting are displayed. We will review the most commonly used links within this navigation pane.

Under the header Basic Tasks, users will find links to ‘Show me my Reports’ which, when selected, will display all reports that the user has created. Next under Basic Tasks is ‘Find Reports’. Selecting this link will open the Find a Report page where the user can search for specific reports by title or by author. The last selection under Basic Tasks is ‘Create Report’. When selected, this link will open the Create Report page where the user can create custom reports such as Listing and Trend reports.

Let’s move on to a review of the Advanced Tasks. Application reports are created by ERCOT and are available to users as read-only listing reports. A user can run an application report and then save with a new name as an ordinary listing report but cannot directly modify or delete an application report. The next link, Browse Multi-View Reports, will allow the user to view existing multi-view reports. External reports allow a user to specify any URL and store it as a report. Last, the user can select Built-In Reports to view a selection of system reports that can be viewed but not modified. Examples of built-in reports include ‘All Items’ which will return all items the user has privileges to view, and ‘All Items I Am The Primary Owner’ which enables the user to view all items in MarkeTrak where he or she is the primary owner.

The third category in the Reports navigation pane is Auxiliary Table Reports which includes a link for the user to browse contact reports, such as ‘MT Administrator Contacts’ which returns all MarkeTrak administrators and their contact information for each market participant. The last selection of Browse MarkeTrak Contact List (Rolodex) allows users to view the rolodex contacts for a specific market participant.

Now that we have reviewed the basics of navigating the report functionality in MarkeTrak, let’s take a more in-depth look at the different report types. We’ll start by accessing the Help feature in MarkeTrak which will open the SBM User Workspace. SBM stands for Serena Business Manager which is the software vendor for MarkeTrak. Within the SBM User Workspace, users can find help text for many areas of MarkeTrak. For this tutorial, we will focus on the Reporting section of the SBM User Workspace.

Let’s begin our review of the various report types by searching the help text for Distribution reports. Distribution reports summarize categories of items and are useful for market participants who need totals, counts, or summarized information in an easy-to-read format. The user can review each tab when creating a distribution report for help with Content Options, Search Filters, Additional Options, Drill-Down Display Options and Results.

Next, we’ll discuss Duration reports. There are three types of Duration reports in MarkeTrak:

* Average Time to State which reports the amount of time an issue takes to reach a selected state.
* Elapsed Time which reports the amount of time issues have spent in a collection of states over time.
* Time In State which reports the amount of time an issue has spent in each state.

The help text within the SBM User Workspace is an excellent reference for help in guiding users thru the process of creating Duration reports.

Now let’s move on to our review of Trend reports. There are a variety of trend reports available to MarkeTrak users which include:

* Trend reports which provide historical totals or submittal rates of issues over days, weeks, months and quarters.
* Backlog reports which provide trends of open issues with a selected time frame.
* Entering a State report which returns trends of issues entering a selected state within a specific time interval.
* Open and Completed trend report which provides open and completed rates of issues over days, weeks, months, and quarters.
* State Activity reports provide trends of issues entering and leaving a selected state over a specific period of time.

Next in our review of MarkeTrak report types are Dashboard Reports which include:

* Calendar reports which enable a user to visualize data in a calendar format. When date-sensitive items are shown in a calendar format, the user can instantly see the timing of tasks and how they fit together in the user’s schedule.
* Drill Through reports which are a collection of a driver report and sub-reports tied together based on a set of rules. The sub-reports are generated based on selections made in the driver report.
* Multi-Calendar reports which are a collection of Calendar reports that display date-sensitive items in a calendar format.
* Multi-View reports which allow users to view multiple existing reports, including built-in and application reports, in a single report.

The next category of report types is Other. These reports include:

* Details reports which display the details of the issues that meet the report criteria. Details reports display selected field selections for issues, providing a more comprehensive view than Listing reports.
* External reports which enable users to specify any URL and save it as a report. The external report can then be combined with other reports in a Multi-View report.
* State Change reports which display the state changes for issues that meet the report criteria. A State Change report shows the issue id, each state in which the issue resided, and the amount of time the issue spent in each state.

The last category of MarkeTrak reports is a List report. Report types under the List category are:

* Listing reports which provide users with a list of items based on the search, display, and sorting options selected. As mentioned earlier in this tutorial, Listing reports are the most commonly used report type.
* Change History which are reports that display changes made to issues as they move thru the workflow. This report type allows users to search for changes to an issue based on the type of action performed, the fields that changed, the user who changed the issue, and when the issue was changed.

Let’s walk thru the creation of a Listing report since that is the most commonly used report type. We will create a report to show Switch Hold Removal issues for a specific MP and the time the issue has spent in its current state. From the MarkeTrak Home page, select Reports from the Navigation Pane. Under Basic Tasks, select Create Report. Select Listing from the List tab. The Create Listing report window displays where the user can select the Content, Search Filter criteria, Sorting options, and Additional Options. Let’s begin by identifying the content to be returned in our sample report.

* Report Item Type is a drop down field containing the tables, or areas within MarkeTrak, where the information the user is requesting in the report is located:
  + MarkeTrak Issues
  + Companies
  + Contacts
  + MarkeTrak Contact List (Rolodex)

For our sample report, we would select MarkeTrak Issues as our Report Item Type since we are gathering data from MarkeTrak issues.

* Report Projects allows the user to select a level of reporting. For example, if the user is creating a report to capture data across several issue subtypes, the user should set the Report Project at the highest level of MarkeTrak. If the user is only reporting on one subtype in particular, the Report Project level can be set at that subtype. We will keep the level at the default of MarkeTrak for this example.
* Joins is not an option that is currently enabled in MarkeTrak.
* Select Columns to Display allows the user to identify the data that will be returned in the report. For our sample report, let’s select the following fields:
  + Issue ID
  + ESI ID
  + Submitting MP
  + Assignee
  + Responsible MP
  + State
  + Submit Date
  + MPs Involved

Now that we have identified the content to be returned in our report, let’s move on to the search filter criteria.

For this example, the user would like to return Switch Hold Removal Issues for their organization and the amount of time the issue has spent in its current state. So we’ll begin by creating a filter to only bring back Switch Hold Removal issues. To do this, the user selects Add, selects Subtype from the Fields dropdown list (hint: typing the letter S will take the user directly to the subtypes beginning with the letter S in the dropdown field), the default value in the Operator field of ‘contains any’, and Switch Hold Removal from the Field Values list. The user can double click on the value of Switch Hold Removal to move it over to the selection pane or use the arrow to move the value. The user would then select OK to save this filter. Another useful filter is to set the report to only return active issues. To do this, the user would again select Add, select Active/Inactive from the Fields dropdown field, keep the operator default to ‘=’, and highlight Active. Selecting OK saves this filter. Now that the search filters have been created, we will move on to the last part of our report creation which is to create a calculated column that will show the amount of time the issue has spent in its current state. To do this, the user selects the Additional Options tab. In the Add Columns of Calculations section, the user first names the column “Time In Current State”. The next step is to create the calculation. For this example, the user would set the first field to the value of ‘Now’ by clicking on the Date/Time Keywords and selecting ‘Now’. The operator for this calculation should be set to ‘-‘. In the last field, the user selects ‘Last State Change Date’. The calculation of Now minus the Last State Change Date will return the number of days, hours, minutes and seconds the issue has been in its current state. The last criteria we will add to this sample report is a sorting option. The user selects the Sorting tab and we will sort this report by the Time in State in descending order so that those issues that have spent the longest time in the current state will appear at the top of the list. We are now ready to view our report results but before we select Preview, let’s quickly review some of the more advanced functions that are available during report creation. In the Search Filter, you will see a link for ‘Advanced’. When selected, these additional search operators are available:

* AND: Select a condition, and then click AND to include it with the preceding condition. The AND operator returns all items that meet all conditions defined in the search parameters. For example, if the user only wanted to see the time in state for issues submitted by a specific individual and for a specific state within the Switch Hold Removal workflow, the conditions “Submitting MP Owner contains any Jane Doe” AND "State contains any “In Progress (Assignee) " returns all issues that were submitted by Jane Doe AND are in the state of In Progress (Assignee).
* OR: Select a condition, and then click OR to include it with the preceding condition. The OR operator returns any items that meet the conditions defined in the search parameters. For example, the conditions "State contains any In Progress (Assignee)” OR "State contains any “In Progress (TDSP)-Final Review" returns any issues that are in either of those two states.
* Add Opening Parenthesis (+: Select a condition, and then click the Add Opening Parenthesis button to begin a sequence for evaluating conditions. The opening parenthesis is always added after the AND or OR operator.
* Add Closing Parenthesis )+: Select a condition, and then click the Add Closing Parenthesis button to end a sequence for evaluating conditions. The closing parenthesis is always added at the end of the selected condition.
* Remove Opening Parenthesis (-:Select a condition that contains an opening parenthesis, and then click the Remove Opening Parenthesis button to remove the parenthesis.
* Remove Closing Parenthesis )-: Select a condition that contains an closing parenthesis, and then click the Remove Closing Parenthesis button to remove the parenthesis.

Now that we have reviewed the Advanced search functions, let’s take a look our sample report by selecting Preview. The report displays with the columns selected in the Content tab, the filter criteria selected in the Search Filter tab, the Time In State calculated column set in the Additional Options tab, and the sorting order established in the Sorting tab. The user now has options for saving the data. The report can be exported to Excel by selecting ‘Export to Excel’ from the Actions dropdown box. The user can also choose to Save the report for future access by selecting Save at the top right of the MarkeTrak screen. To save a report, the user first enters a Title for the report (“Active Switch Hold Issues Time in State”) and then selects the Privilege Category. For must users, the privilege category available is Private which means the report can only be accessed by that individual user. MarkeTrak Admins have the ability to create reports and save with Privilege Category of Guest or User which allows all members of their organization to access the report. Add to Favorites allows the user to add the report to the public folder for their organization (if they have the correct permissions to do so) or to add the report to the user’s Quick Links dropdown for easy access. And finally, the user can provide a description of the report in the comments section if desired. The user then selects Finish to save the report.

Using the report we just created, we will illustrate how MarkeTrak users can create scheduled reports. The Scheduled Reports tab in the User Profile allows users to schedule reports to run at a particular day and time and have the results e-mailed. Users can easily schedule reports to execute and send to the e-mail address specified in their user profile on a recurring basis by simply selecting a report to run, the frequency it should run, and the exact time it should be executed. For this tutorial, we will illustrate the user creating a scheduled report to view the Active Switch Hold Issues Time In State data every morning at 9:00 am.

The user begins by selecting the User Profile Settings link at the top of the MarkeTrak page and then selecting the Scheduled Reports tab. The user selects Add and a search pane displays. The user types in the name of the report (either all or part of the report title) they want to schedule, selects the report, and clicks OK. The next step is to set the frequency of the report delivery for 9:00 every morning. The user also has an option to receive the report as an Excel file or as a PDF file by clicking on the Advanced Options link and setting the Response format. Within this advanced options pane, the user can also check the box to suppress the email if there are no report results.

This wraps up our review of the reporting functionality available thru the GUI. MarkeTrak users also have the ability to run canned Background Reports which are reports that execute in the backend system and generate a .csv file with the results. Some benefits of Background Reports include:

* Increase number of exportable rows when running a report
* Allows users to run a report and work in the GUI at the same time
* Allows users to search multiple inputs within each search criteria category and have issues returned in a report format, for example:
  + Multiple Issue IDs
  + Multiple ESI IDs

Users have the option of choosing to save the results report to the Background Report issue or it can be posted to the Reports and Extracts Index in MIS. If the output .csv file exceeds 10MB in size, the report will automatically post to MIS regardless of the report destination selected on the issue. Background Reports can be executed and retrieved thru the GUI and the API.

For this tutorial we will walk through the creation of one sample Background Report. For information on all available Background Reports and detailed descriptions, users should review Section 9 of the MarkeTrak Users Guide which is located on the MarkeTrak Information page. Also located on the MarkeTrak Information page is a link to a document titled ‘Background Report-Output Column Headings’ which details the data returned in each column for all of the available Background Reports.

Let’s walk thru the creation of a Background Report. To submit a Background Report, the MarkeTrak user selects ‘Background Report’ from the Submit Tree. From within the Report Name dropdown field, the user selects the report to execute. For this tutorial, we will illustrate a Count of Issues by Sub-Type. Comments are optional on Submit. The users selects OK and the issue transitions to a state of ‘Report Selected’. Displayed in the Issue Information section is the Report Description detailing the type of data returned in the report and the information required to successfully submit the report. The user then selects Provide Parameters to continue the submit process. Within the Provide Parameters section, the user sets the Report Destination by choosing Issue Attachment or MIS from the dropdown field. A selection of ‘Live’ is the default criteria for Data to Return. Selecting Live will return data for any issue that has been closed for less than 7 months. Archived will return only those issues that have been closed for 7 months or greater and have been archived. Selecting Both will return all Live as well as Archived issues. The user now selects the subtypes to be returned in the report. For this illustration, we will select Cancel With Approval and Switch Hold Removal issues by double clicking on those values to move them to the selection pane. For this report, we will choose only those issues with a start date after January 1, 2017. The required format for date entry is yyyy-mm-dd. The user now selects OK and the issue transitions to a state of Parameters Provided and the user can now select Submit Report. The issue transitions to a state of Report Submitted. When the report has been generated and posted to the selected Report Destination, the issue will auto complete. Users can subscribe to a notification to receive an email once the Background Report issue has closed by selecting Add Item Notification from the Actions dropdown field and then selecting MT-Background Report has been prepared from the Notification dropdown field. Under Channels, the Delete Notification When Item Becomes Inactive should be UNCHECKED. Click on Add Item Notification to finish the process. The user will now receive an email advising them when their Background Report has closed and the results are available for review.

This concludes our review of MarkeTrak GUI and Background reporting. As we have illustrated, there are a variety of reports available for users to extract data from MarkeTrak; however, in the event a user is not able to retrieve the data needed thru one of the GUI or Background report options, a request can be submitted to ERCOT via the ‘Other’ subtype in Marketrak to request the data. Data requests are ad-hoc only and should not be repeated on a consistent basis (weekly, monthly, etc.).

Users submitting a data request thru the ‘Other’ MarkeTrak subtype should include as many details in the Comments section as possible about the data they are requesting. This will help expedite resolution once the issue has been acknowledged by ERCOT. Within 7 business days of receipt of a data request, an ERCOT analyst will either:

* Provide the steps necessary for the market participant to obtain the data;
* Provide the requested information; or
* Provide an estimated date of completion for requests that require more than 7 business days to complete.

CHECKPOINT QUESTIONS:

True or False: Users can modify Built-In reports to set the criteria to their specific reporting needs.

False: Built-In reports can be viewed but not modified.

True or False: For in-depth, step by step, help creating MarkeTrak reports, users should reference the MarkeTrak Users Guide.

False: The MarkeTrak Users Guide offers a general overview of MarkeTrak reporting. For in-depth assistance, users should select the Help link at the top of the MarkeTrak page and search within the Serena Business Manager help options for assistance with navigating and creating reports.

Multiple Choice: For Background Reports, what is the criteria for a Live issue in the Data to Return section?

1. Issues that have been closed less than 12 months
2. Issues that are in state of ‘Report Submitted’
3. Issues that have been closed less than 7 months
4. All of the Above

Answer: C – Issues that have been closed less than 7 months