

# Downtime

Downtime is a tool designed to aid SMS in manually tracking and attributing reasons to downtime in the operation, to replace the use of text editors for manual tracking (Notes, TextEdit, E-Mail drafts...)

Downtime has three tabs, one each for the operations SMS monitors - Vessel, Rail, and Landside. Vessel and Rail tabs look the same; the difference in the Landside interface is that the **Total** Time field and column are missing, since total downtime is not calculated for Landside the way it is for Vessel and Rail.

All three tabs of Downtime have three major components: the downtime entry area, the downtime table view, and the report controls.

## Entry Area

## Table View

## Control Area

The screenshot shows the Downtime application window with the Vessel and Rail tabs selected. The entry area at the top contains fields for Start Time (0000), End Time (0000), Downtime Reason (Enter downtime explanation...), Total Time (0.0), and Category (Category...). Below the entry area is a table view with columns for Start Time, End Time, Downtime Reason, Total Time, and Category. The control area at the bottom includes buttons for Remove Downtime, Flex Hour, Extended, Day, Night, Hoot, and Generate Text Report.

The screenshot shows the Downtime application window with the Landside tab selected. The entry area at the top contains fields for Start Time (0000), End Time (0000), Downtime Reason (Enter downtime explanation...), and Category (Category...). Below the entry area is a table view with columns for Start Time, End Time, Downtime Reason, and Category. The control area at the bottom includes buttons for Remove Downtime, Flex Hour, Extended, Day, Night, Hoot, and Generate Text Report.

## Adding Downtime - Entry Area

The Entry Area is where you will enter all the salient details for each downtime entry. It has labeled fields for each component of a downtime entry.

**Start Time** and **End Time** (if applicable) need to be in 24-hour format. If you add an entry that requires an **End Time** with no **End Time** (like if you added some downtime before you knew when it would be over), it will display "**missing**" in the end time field. You must correct this (and assign the **Total Time** on the Vessel or Rail tabs, once you have an **End Time**) before being able to generate a report.

In the Vessel and Rail tabs, the **Total Times** field is populated with the amount of hours (to the tenths place) between the **Start Time** and **End Time**, multiplied by one through seven for vessel (so you can assign a downtime entry for one STS crane, all seven STS cranes, or any number in between), and one through three for Rail (only three RMGs). If you click the **Total Times** box without having real **Start Times** and **End Times**, it will be populated with all zeroes, or the **Total Times** from the last entry you added.

**The Landside tab does not use the Total Times, since total downtime is not calculated for the Landside operation.**

The screenshot shows a software window titled "Downtime" with three tabs: "Vessel", "Rail", and "Landside". The "Vessel" tab is selected. The interface includes a form for adding a new downtime entry with the following fields:

- Start Time**: A dropdown menu showing "1800".
- End Time**: A dropdown menu showing "1830".
- Downtime Reason**: A text input field containing "Sample Downtime".
- Total Time**: A dropdown menu showing "0.0". A list of options (0.5, 1, 1.5, 2, 2.5, 3, 3.5) is visible below the dropdown.
- Category**: A dropdown menu showing "Mechanical".

Below the form is a table with the following headers: "Start Time", "End Time", "Downtime Reason", "Total Time", and "Category". The table is currently empty. At the bottom of the window, there are several controls:

- Remove Downtime**: A button.
- Options**: A section containing checkboxes for "Flex Hour" and "Extended".
- Shift**: A section containing radio buttons for "Day", "Night", and "Hoot".
- Generate Text Report**: A button.

## Entry Area - Categories and Their Prefix Commands

On both tabs of Downtime, you can, but you do not have to, use the **Downtime Reason** field to assign a category with prefix commands. There is one prefix command for each category. To use a prefix command, enter it as the first text in the **Downtime Reason** field, like the pictures below.

### Vessel Prefixes:

#mech - Mechanical

#op - Operational Scenario

#estop - E-Stop

#sys - System / Tech

#dead - Deadtime

#note - Note

The screenshot shows the 'Downtime' window with the 'Vessel' tab selected. At the top, there are three tabs: 'Vessel', 'Rail', and 'Landside'. Below the tabs, there are five input fields: 'Start Time' (0000), 'End Time' (0000), 'Downtime Reason' (containing '#mech'), 'Total Time' (0.0), and 'Category' (Mechanical). An 'Add Downtime' button is located below the 'Downtime Reason' field. Below these fields is a table with five columns: 'Start Time', 'End Time', 'Downtime Reason', 'Total Time', and 'Category'. The table is currently empty. At the bottom, there are two sections: 'Options' with a 'Remove Downtime' button and checkboxes for 'Flex Hour' and 'Extended', and 'Shift' with radio buttons for 'Day', 'Night', and 'Hoot'. A 'Generate Text Report' button is also present.

### Rail Prefixes:

Rail shares the same prefixes as the vessel, but has one addition

#rmg - RMG Fault

The screenshot shows the 'Downtime' window with the 'Rail' tab selected. At the top, there are three tabs: 'Vessel', 'Rail', and 'Landside'. Below the tabs, there are five input fields: 'Start Time' (0000), 'End Time' (0000), 'Downtime Reason' (containing '#rmg'), 'Total Time' (0.0), and 'Category' (RMG Fault). An 'Add Downtime' button is located below the 'Downtime Reason' field. Below these fields is a table with five columns: 'Start Time', 'End Time', 'Downtime Reason', 'Total Time', and 'Category'. The table is currently empty. At the bottom, there are two sections: 'Options' with a 'Remove Downtime' button and checkboxes for 'Flex Hour' (checked) and 'Extended', and 'Shift' with radio buttons for 'Day', 'Night', and 'Hoot'. A 'Generate Text Report' button is also present.

### Landside Prefixes:

#light - Light Curtain Break

#reland - Reland

#flip - Flip

#asc - ASC Fault

#note - Note

The screenshot shows a macOS-style window titled "Downtime". At the top, there are three tabs: "Vessel", "Rail", and "Landside", with "Landside" being the active tab. Below the tabs is a form with four main sections: "Start Time" with a dropdown menu showing "0000", "End Time" with a dropdown menu showing "0000", "Downtime Reason" with a large text input field containing "#asc", and "Category" with a dropdown menu showing "ASC Fault". Below these fields is an "Add Downtime" button. Underneath the form is a table with four columns: "Start Time", "End Time", "Downtime Reason", and "Category". The table is currently empty. At the bottom of the window, there are two sections: "Options" with a "Remove Downtime" button, a checked "Flex Hour" checkbox, and an unchecked "Extended" checkbox; and "Shift" with three radio buttons: "Day", "Night", and "Hoot", with "Day" being selected. To the right of the "Shift" section is a "Generate Text Report" button.

There are six categories for Vessel, seven categories for Rail, and five categories for Landside, listed above next to their prefix.

Each operation also has a **Note** category. The **Note** category is special. You can create a **Note** with no times at all (General Note - a note general to the entire operation), or a note with just a **Start Time** (Sorted Note - a note general to the hour), or a note with a **Start Time** and **End Time** (Timed Note - a note specific to a range of time.) Because you cannot select a **Total Time** (not allowed in Vessel/Rail, not present in Landside), you have free range to attribute times to any **Note** as you would like with no worry that the time will be counted when calculating the total downtime values.

General Notes will appear at the beginning of the report, before any downtime entries.

Timed Notes will appear at the end of the downtime entries for the hour they are added, and will display their **Start Time** and **End Time**.

Sorted Notes will appear at the end of the downtime entries for the hour they are added, after the Timed Notes, in the order they were added to the table.

## Adding Downtime

When you click "Add Downtime", the details are moved to their own row in the downtime table view area. The program will not keep the #mech prefix (or any other prefix) inside the **Downtime Reason** text when adding it to the table.

Category prefix entered in the Downtime Reason field

The screenshot shows a window titled "Downtime" with tabs for "Vessel", "Rail", and "Landside". The "Vessel" tab is selected. The form contains the following fields:

- Start Time:** 1800
- End Time:** 1818
- Downtime Reason:** #mech Crane 10 swapping spreader
- Total Time:** 0.3
- Category:** Mechanical

The "Add Downtime" button is circled in red. Below the form is a table with the following columns: Start Time, End Time, Downtime Reason, Total Time, and Category. The table is currently empty.

At the bottom of the window, there are sections for "Options" (Remove Downtime, Flex Hour, Extended) and "Shift" (Day, Night, Hoot), along with a "Generate Text Report" button.

Category prefix removed when the downtime entry is added to the table

The screenshot shows the same "Downtime" window, but the "Add Downtime" button is no longer circled. The "Downtime Reason" field now contains the text "Enter downtime explanation...". The "Total Time" field is now 0.0 and the "Category" field is "Category...".

The table below the form now contains one row of data:

Start Time	End Time	Downtime Reason	Total Time	Category
1800	1818	Crane 10 swapping spreader	0.3	Mechanical

The "Downtime Reason" field in the table row does not contain the "#mech" prefix. The rest of the form and the bottom section remain the same.

## Editing and Viewing Downtime - Table View

The fields in the table view can also be edited, if for example you made a typo in the **Downtime Reason**, wanted to change the **Start Time** or **End Time**, or mistakenly clicked the wrong multiple of **Total Times**, or need to change the **Category**. To edit the **Start Time, End Time, or Downtime Reason** for a table view entry, just double click the text. To edit **Total Times** and **Category**, click the arrows next to those values.

**If you change a Start Time or End Time and it would change the sorting of an entry, it will re-sort immediately after exiting the text field that you changed. This may look like the value "disappeared," but it only moved.**

The table automatically sorts the downtime entries according to the following rules;

- Downtime entries are initially sorted by **Start Time**, low to high.
- If two entries have the same **Start Time**, they are sorted by the **End Time**, low to high.
- If a downtime entry stretches into the next hour (i.e., 0830-0942), then it will be sorted based on the **Start Time**.
- If an entry is a **Note** that **DOES NOT HAVE** a **Start Time**, it is sorted to the very end of the table, in the order it was added.
- If an entry is a **Note** that **DOES HAVE** a **Start Time**, it is sorted to the end of the hour for that **Start Time**, in the order it was added.

## Configuring and Generating Reports - Control Area

Downtime can generate text reports for all of the entries currently in the table view.

Before exporting a **Text Report**, you have to first select the **Shift** you will be generating a report for.

If your **Shift** will include a flex hour, or go extended, be sure to check these boxes so that the program will display and count these downtimes. The **Flex Hour** checkbox is selected by default for the Rail and Landside operations.

Clicking the **Flex Hour** checkbox will generate the **Text Report** or **Spreadsheet** report with an extra hour before the shift start (0700-0800, 1700-1800). Clicking the **Extended** checkbox will generate the **Text Report** or **Spreadsheet Report** with two extra hours after the shift end (1700-1900, 0300-0500).

On the Vessel tab, a report will generate immediately after you press the button to generate it. On the Rail and Landside tabs, a drop down appears for the final information needed for the report.

The rail drop down view prompts the user to fill in the final information for the report. It includes fields for the first and second half operators and stead amounts, as well as the ending number of conveyors in operation.

The **Total Moves** field in each side will automatically add the values you enter for **Total Discharge**, **Total Loadout**, and **Resets**.

The screenshot shows a 'Downtime' dialog box with a '1st Half' and '2nd Half' section. The '1st Half' section includes fields for 'Crane Operators' (Operator Name...), 'Strads for Rail Operation' (00/00), 'Conveyors in Operation' (0), and '1st Half Total Moves' (Total Discharge: 000, Total Loadout: 000, Resets: 000, Total Moves: 000). The '2nd Half' section includes fields for 'Crane Operators' (Operator Name...), 'Strads for Rail Operation' (00/00), 'Conveyors in Operation' (0), and '1st Shift Total Moves' (Total Discharge: 000, Total Loadout: 000, Resets: 000, Total Moves: 000). There are 'Cancel' and 'Generate Text Report' buttons. The background shows a table with 'Start Time' and 'End Time' columns, and a 'Category' dropdown menu set to 'Mechanical'. At the bottom, there are 'Options' (Flex Hour, Extended) and 'Shift' (Day, Night, Hoot) sections, with a 'Generate Text Report' button.

These values will stay populated so long as you keep Downtime open. This allows you to enter first half information as the first half completes, then close the drop down view and return to tracking Downtime for the second half of the operation.

Once you've finished entering the totals, you can click **Generate Text Report** again to generate the final Rail report.

The Landside drop down view prompts the user to fill in the header sentence for the report, as well as the delivered/received totals and the automation inventory that is part of the final Landside shift report.

The **Flips** field will automatically populate based on however many Flips are present in the table view, but you may change this value.

The **Total** field for **Landside Totals** will automatically add the values of delivered and received containers that you enter.

The screenshot shows a 'Downtime' dialog box with the following content:

We began the day with a FLEX Start and delivered  containers. We worked through the meal hour and delivered  containers. We had  flip(s) and our average total turn time for the day was  minutes.

**Landside Totals**

We delivered  containers

We received  containers

Total:  containers

**Automation Inventory**

Outbound:

Inbound:

Empties:

Buttons: Cancel, Generate Text Report

Background window details: Start Time , Options: ☒ Flex Hour ☐ Extended, Shift: ☐ Day ☒ Night ☐ Hoot, Generate Text Report

Once you have finished entering the totals, you can hit the "Generate Text Report" button again to generate the final Landside report.

Reports will open in TextEdit, so that the user can copy them into the Shift Report email at the end of the night.



## Fixing Malformed Data

To be able to export a report with Downtime, the data you provide the application has to meet certain criteria. The three different tabs of Downtime have different requirements based on how the report is formatted.

For **Vessel/Rail**:

- **All entries** must have a **Category** assigned from the list.
- If an entry **is not** a **Note**;
  - **Start Time** must be 4 digits and numeric only.
  - **End Time** must be 4 digits and numeric only.
  - **Downtime Reason** must **not** be empty.
  - **Downtime Reason** must **not** contain the strings '%\$' or '&#~'. Downtime uses these strings to delimit your save data, so you may not use them in your downtime fields.
  - **Total Time** must **not** be empty and **must** match one of the total times from the list.
- If an entry **is** a **Note**;
  - **Start Time** must be 4 digits and numeric only **or** empty.
  - **End Time** must be 4 digits and numeric only **or** empty.
  - **Downtime Reason** must **not** be empty.
  - **Downtime Reason** must **not** contain the strings '%\$' or '&#~'. Downtime uses these strings to delimit your save data, so you may not use them in your downtime fields.
  - **Total Time** **must** be empty.

For **Landside**:

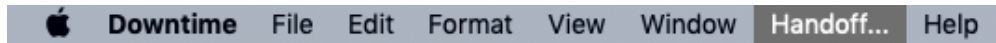
- **All entries** must have a **Category** assigned from the list.
- **All entries** must **not** contain the strings '%\$' or '&#~' in the **Downtime Reason**. Downtime uses these strings to delimit your save data, so you may not use them in your downtime fields.
- All **Light Curtain Breaks** must have a **Start Time** and **End Time** assigned.
- All **Relands** must have a **Start Time** assigned.
- **Flips** may **not** have a **Start Time** or **End Time**.
- **ASC Faults** must have a **Start Time**, and may or may not have an **End Time**.
- **Notes** may or may not have a **Start Time** or **End Time**.

If any of your values do not match the export criteria when you attempt to generate a report, Downtime will display a warning indicating what is wrong. Downtime also checks your data every time you make an entry, but only displays the warning when you click a button or try to quit the application and data is malformed.

When data is missing entirely, the field will be highlighted yellow. When data is not allowed (like times with letters in them, or fields that contain the save characters), the text will turn red.

# Handoff

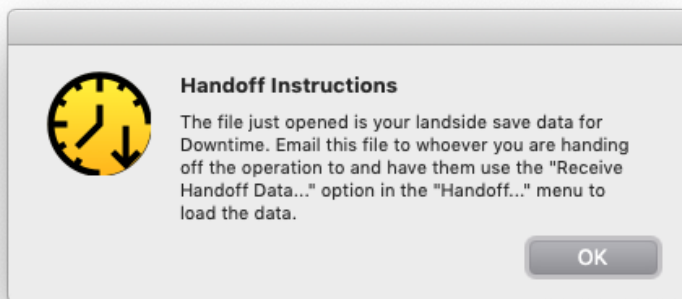
Downtime allows you to handoff your data to another user so that users can take or pass over their downtime entries from or to another user. The handoff options are all contained inside the **Handoff...** menu option at the top of the screen.



This menu option contains four items - three for generating the handoff data for each operation, and one for receiving handoff data from another user.

Handoff Vessel Data...  
Handoff Rail Data...  
Handoff Landside Data...  
Receive Handoff Data...

When you click the options to handoff data, the application will open your save data in TextEdit behind your window and display following instructions;

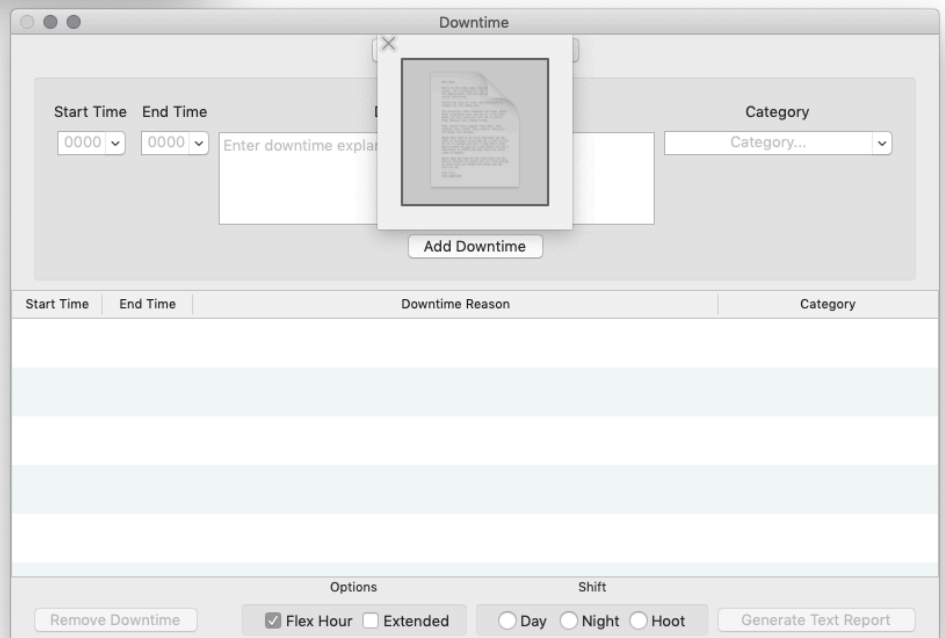


Like the alert says, you need to attach this file in an email or some other way to whoever you are handing off the downtime entries to.

The first sentence will change to reflect which set of data you are handing off.

When you click **Receive Handoff Data...**, the following drop down appears in Downtime; you drag and drop the file to the indicated area. **Do not rename the file.**

When you drop the file, Downtime will load the data you gave it, populate the table view, and close the drop down for handoff.



**You should make sure you are on the proper tab for the data you are receiving.** If you aren't, Downtime will not automatically close the drop down. Downtime will still load the data to the proper table, but you will have to manually close the drop down by pressing the X in the top left corner, or pressing Esc.