

# 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...)

Downtime has two tabs - one for keeping track of downtime for Vessel or Rail operations, and one for keeping track of downtime for the Landside operation; they are separated because the Vessel/Rail operations use one set of rules and categories, and the Landside uses its own set of rules and categories.

Both 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 image displays two screenshots of the 'Downtime' application interface, showing the 'Vessel / Rail' and 'Landside' tabs.

**Top Screenshot (Vessel / Rail Tab):**

- Entry Area:** Includes fields for Start Time (0000), End Time (0000), Downtime Reason (Enter downtime explanation...), Total Time (0.0), and Category (Category...). An 'Add Downtime' button is present.
- Table View:** A table with columns: Start Time, End Time, Downtime Reason, Total Time, and Category.
- Control Area:** Includes a 'Remove Downtime' button, 'Options' (Flex Hour, Extended), and 'Shift' (Day, Night, Hoot) buttons. There are also 'Text' and 'Spreadsheet' buttons.

**Bottom Screenshot (Landside Tab):**

- Entry Area:** Similar to the top, but the 'Total Time' field is not visible. The 'Category' dropdown is present.
- Table View:** Similar to the top, but the 'Total Time' column is not visible.
- Control Area:** Includes a 'Remove Downtime' button, 'Options' (Flex Hour, Extended), and 'Shift' (Day, Night, Hoot) buttons. A 'Generate Text Report' button is also present.

## **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.

You cannot add a downtime entry to the table without first selecting a category - any or all of the other fields may be blank for the initial adding to the table.

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/Rail tab, once you have an **End Time**) before being able to generate a report.

In the Vessel/Rail tab, 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 (so you can assign a downtime entry for one crane, all seven cranes, or any number of cranes in between). 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.**

## Entry Area - Category Prefixes

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, just make sure it is the first text in the **Downtime Reason** field, like the picture below.

### Vessel/Rail 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 / Rail' tab selected. The interface includes a header with 'Vessel / Rail' and 'Landside' tabs. Below the header, there are input fields for '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 the input fields is a table with columns: 'Start Time', 'End Time', 'Downtime Reason', 'Total Time', and 'Category'. The table is currently empty. At the bottom, there are 'Options' (Flex Hour, Extended) and 'Shift' (Day, Night, Hoot) sections, along with 'Remove Downtime', 'Text', and 'Spreadsheet' buttons.

### Landside Prefixes:

- #light - Light Curtain Break
- #reland - Reland
- #flip - Flip
- #asc - ASC Fault
- #note - Note

The screenshot shows the 'Downtime' window with the 'Landside' tab selected. The interface includes a header with 'Vessel / Rail' and 'Landside' tabs. Below the header, there are input fields for 'Start Time' (0000), 'End Time' (0000), 'Downtime Reason' (containing '#light'), 'Category' (Light Curtain Break), and 'Total Time' (0.0). An 'Add Downtime' button is located below the 'Downtime Reason' field. Below the input fields is a table with columns: 'Start Time', 'End Time', 'Downtime Reason', and 'Category'. The table is currently empty. At the bottom, there are 'Options' (Flex Hour, Extended) and 'Shift' (Day, Night, Hoot) sections, along with 'Remove Downtime', 'Generate Text Report', and 'Text' buttons.

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

The **Note** category is special. You can create a **Note** with no times at all (a note general to the entire operation), or a note with just a **Start Time** (a note general to the hour), or a note with a **Start Time** and **End Time** (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. Notes with no times will be displayed at the beginning of the report, before the total values. Notes with times will be displayed with the hour of their Start Time in the report.

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 the 'Downtime' form with the following fields and values:

- Start Time:** 1800
- End Time:** 1830
- Downtime Reason:** #mech Crane 8 beam swap
- Total Time:** 0.5
- Category:** Mechanical

The 'Add Downtime' button is visible below the form fields.

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

The screenshot shows the 'Downtime' form with the following fields and values:

- Start Time:** 0000
- End Time:** 0000
- Downtime Reason:** Enter downtime explanation...
- Total Time:** 0.0
- Category:** Category...

The 'Add Downtime' button is visible below the form fields.

## 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 and spreadsheet reports for all of the entries currently in the table view.

Before exporting a **Text Report** or a **Spreadsheet 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.

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

This 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 amount of delivered and received containers for you.

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	Automation Inventory
We delivered <input type="text" value="0000"/> containers	Outbound: <input type="text" value="0000"/>
We received <input type="text" value="0000"/> containers	Inbound: <input type="text" value="0000"/>
Total: <input type="text" value="0000"/> containers	Empties: <input type="text" value="0000"/>

Buttons: Cancel, Generate Text Report

Options: ☒ Flex Hour ☐ Extended

Shift: ☐ Day ☒ Night ☐ Hoot

Buttons: Remove Downtime, Generate Text Report

Once you have finished entering the total views, you can hit the “Generate Text Report” button again to generate the final Landside report.

## Fixing Malformed Data

To be able to export a report with Downtime, the data you provide the application has to meet certain criteria. The two 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.