# FPA Tech News

**Purpose:** To update users on the topics and defects listed below:

- How the Initial Response Simulation uses a fire resources Resource Id.
- Defect – Incorrect Data in Input reports
- Defect – Full Time Equivalents (FTEs) and Cost Data in Preparedness Options

- Delays and Borrowed Resources**:**

**Topic: How the Initial Response Simulation uses a fire resources Resource ID (IRS)**

FPA sorts fire resources using a standard ASCII sort based upon the fire resource's Resource ID. For more information, search Google for ASCII sort order.

ASCII sort
The following chart lists characters in ascending order.

| | | | |
|---|---|---|---|
| space | 8 | P | h |
| ! | 9 | Q | i |
| " | : | R | j |
| # | ; | S | k |
| $ | < | T | l |
| % | = | U | m |
| & | > | V | n |
| '(apostrophe) | ? | W | o |
| ( | @ | X | p |
| ) | A | Y | q |
| * | B | Z | r |
| + | C | [ | s |
| ,(comma) | D | \ | t |
| -(dash) | E | ] | u |
| .(period) | F | ^ | v |
| / | G | _(underline) | w |
| 0 | H | `(ticmark) | x |
| 1 | I | a | y |
| 2 | J | b | z |
| 3 | K | c | } |
| 4 | L | d | | |
| 5 | M | e | { |
| 6 | N | f | ~ |
| 7 | O | g | DEL |

**Figure 1 – Fire resources name sort order used when dispatching from a single Dispatch Location when multiple similar resources are available when Producer Type characteristics are the same.**

The IRS model first dispatches fire resources listed in the dispatch logic with the shortest arrival time. If there are more fire resources available of the same Producer Type (engines for example) that will arrive at the fire at the same time from the same Dispatch Location than required, the following documents how fire resources will be dispatched.  Remember that engine Producer Type ENG12 travels faster than ENG34 or ENG56.

- The IRS module first dispatches the engine with a Resource ID that sorts to the top of the list of engines at that dispatch location.  This is done using the standard ASCII sort (Figure 1) with the Resource ID.

- FPA dispatches the next engine on the list next and so on.

Example:

- For Fire Dispatch Level(FDL) Low, when one engine is required  to be dispatched and 3 are available, the system dispatches as shown in Figure 2 below based upon the use of the ASCII sort on Resource ID:

- For FDL Moderate, there are 2 Engines required and Figure 2 shows the dispatch order that is used to dispatch 2 of the 3 engines available at the same Dispatch Location. Remember FPA is using the ASCII sort.

- For FDL High, there are 3 Engines required in the Dispatch Logic and FPA sends three engines.  The order in which they are dispatched is displayed in Figure 2 using the ASCII sort.

| Resource ID | FDL Low Dispatched Order | FDL Moderate Dispatched Order | FDL High Dispatched Order |
|---|---|---|---|
| ABC VFD Engine | 1 | 1 | 1 |
| Engine 161 (T-6) | Not Dispatched | 2 | 2 |
| Engine 241 (T-4) | Not Dispatched | Not Dispatched | 3 |

**Figure 2 – Example of the order resources are dispatched at three different Fire Dispatch Levels.**

FPA uses the ASCII sort order, thus the ABC VFD engine in Figure 2 above will always go first if it is available 100% of the time. If it is available less than 100% of the time, ABC-VFD still goes first if the system "hits" it on a percentage basis when other conditions (seasonal availability, day of week, hours of use etc) are met. Based upon the Resource ID, and when all three engines are available to be dispatched, the ASCII sort order on Resource ID is used to determine which engine will be dispatched first, second, and so on until the list of fire resources by Produce is exhausted or the Dispatch Logic is fulfilled.

To rename or change a fire resources Resource Id so when sorted they represent the order you want them to be in see the [FPA Users Guide – Define Resources](#).

**Figure 3 - Below provides an example of what renaming the Resource Id will result in when the ASCII sort is used by FPA.**

| Resource ID | FDL Low Dispatch Order | FDL Moderate Dispatch Order | FDL High Dispatch order |
|---|---|---|---|
| 1 Engine 241 (T-4) | 1 | 1 | 1 |
| 2 Engine 161 (T-6) | Not Dispatched | 2 | 2 |
| ABC VFD Engine | Not Dispatched | Not Dispatched | 3 |

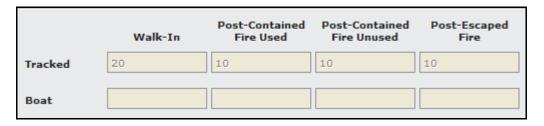**Figure 3 – Example of change in resource dispatch order based on renaming the Resource ID's.**

To see how your resources sort go to Define Resources in the FPA system and when loaded click on the Resource ID column header, when the arrow on the right side "points up" the resources are sorted in the order they will be used based on the categories of equipment in the dispatch logic.

**Remember when there are more fire resources of the same Producer Type available for dispatch than required in the Dispatch Logic at the same Dispatch Location; IRS will use the ASCII sort on the Resource Id for the Producer Type to determine the order for Dispatch.**

## Defect – Incorrect Data in Input reports:

The delay data showing in the FWA Data tab (the second tab on the FPU Input Report) is not always correct. If resources not available (boats, etc.) to the FPU have their delays left blank, the report displays data from the previous row, if there is one.

In the following example, this FPU has tracked equipment resources, but not boats.

| | Walk-In | Post-Contained Fire Used | Post-Contained Fire Unused | Post-Escaped Fire |
|---|---|---|---|---|
| Tracked | 20 | 10 | 10 | 10 |
| Boat | | | | |

The delays entered for tracked resources displays for boats unless the user has entered a zero (0) for the boat delays. The next two examples show the Input report results where the FPU entered no delay values for Boats.

| Tracked Walk-in Delay | Tracked Post-Contained Fire Used Delay | Tracked Post-Contained Fire Unused Delay | Tracked Post-Escaped Fire Delay |
|---|---|---|---|
| 20 | 10 | 10 | 10 |
| **Boat Walk-in Delay** | **Boat Post-Contained Fire Used Delay** | **Boat Post-Contained Fire Unused Delay** | **Boat Post-Escaped Fire Delay** |
| 20 | 10 | 10 | 10 |

*Workaround*

For now, realize that the second tab of the Input Report is not reliable where the delays are concerned. Information related to other FWA attributes including the Diurnal Rate of Spread Coefficients on that tab is correct.

## Defect – Full Time Equivalents (FTEs) and Cost Data in Preparedness Options

When entering Leadership and Support Full Time Equivalents (FTE) the user interface displays the FTE as an integer. When entering data for Leadership and Support be aware that the default display shows only costs. Editing while costs are selected allows the user to edit the Leadership, Support, and Facilities O&M costs. To enter the FTE and position counts for Leadership and Support click on the Personnel Area at the top of the tab. You can also click on the "All" section and the editable FTE and Cost fields are available by scrolling back and forth.

*Workaround*

Maintain a record of the FTE amount as it will not be correct if entered prior to the early 2009 release.

*Fix*

IBM is working to correct this defect. It should be available to users in early 2009.

## Topic – Delays and Borrowed Resources:

- The "Post" delays are FWA specific and apply to any borrowed resources.

- The "Callback" delays are dispatch location specific. If the dispatch location is not your, you cannot edit the callback delay.