

Using Designated Deicing Facilities in FSCaptain

Many airports with lots of aircraft deicing requests are moving away from 'on-stand' deicing in favor of Designated Deicing Facilities (DDFs) – dedicated locations where aircraft can undergo deicing and anti-icing treatment. These locations have specialized capabilities to recover used fluids and wastewater, and to provide a more efficient process overall. (There's a higher throughput, plus it's far safer for workers... even with aircraft engines running!)

If you want to use DDFs in your career as a Captain, you will need four things: 1) An airport with previously defined DDFs. 2) The proper conditions under which deicing is needed. 3) A good plan in mind to account for any possible extra taxi time that may be called for.

The fourth thing is to enable DDFs by adding this to your option.cfg: `ENABLE_DESIGNATED_DEICING=1`. This is a one-time setting, of course.

We'll demonstrate how DDFs work by taking a test flight ourselves....

Today we will be taking a 737-800 out from KROA to KGSP. We're parked at Gate 5 with lots of snow falling, a temperature of -7C, and a wind from the Northeast. ATC has made Runway 6 active so we anticipate some extra taxi time to and from the single DDF here at Roanoke. We'll show an airport diagram later to detail this, but for the moment know that we've used the Administrator to ask for 10 extra minutes and 100 pounds more fuel to account for our increased taxi-out time.

After loading PAX and Cargo we see the Weather Hold screen to the right with the possible choices of DEICE AT DDF, and DEICE HERE.

Some airports may require you to use a DDF, but by default airports with defined DDFs will offer it as an option so that it's your choice. You can control this behavior by editing the `\Config\Deice.cfg` file – details are within that file.

If we were to select DEICE HERE, everything would proceed as usual, except we would see two deicing trucks appear at our 4 o'clock and 7 o'clock positions. After selecting DEICE AT DDF, we're given the choice of ACME PUSH or START FLIGHT (or of GSX Push, since its available).



In any event, we've just gone OUT - *our flight clock has started*. This is why we needed to ask for extra Block Time from Dispatch.

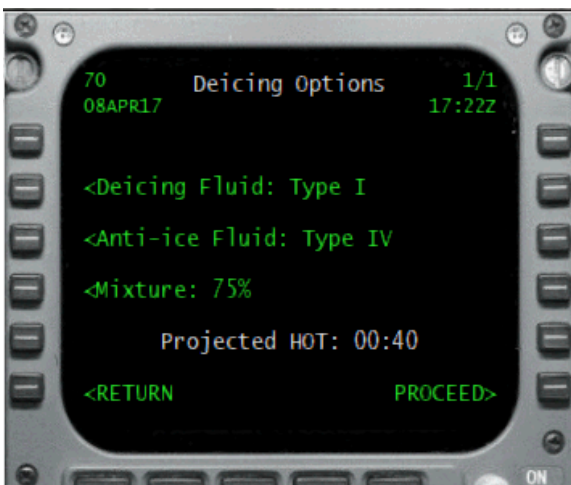
To the left we see the same Flight Menu screen but with bearing/range guidance to the closest DDF. (There's only one DDF here at KROA, but at larger airports we could choose any available DDF.)

We then start our taxi to the location (SimObject Captains can look for the static trucks) and once we get within 50 meters we get the checklist to set brakes, close all doors, extend flaps, etc. (Turbojet aircraft can leave their engines running... since there's no Ground Power Units about.)

Here's our default 738 approaching the DDF at KROA's Cargo Area East. This can be found in the modified KROA scenery in the \DDF Default Airports\ folder. (Notice the taxiway sign to the left, directing traffic to the deicing pad.)



At this point, we're in communication with ICEMAN and everything functions as it does for on-stand deicing. While our turbojets can remain running, best practices call for us to extend our flaps so the deicing crew can clear all nooks and crannies.



Since it's snowing today, we've chosen Type I and Type IV at 75% strength. That gives us 40 minutes of Holdover Time (HOT). (With snow falling at -7C, a 50% strength mixture would give us 0 HOT, so we must go with a 75% mixture at a minimum.)

Deicing has started, and all we need do is to stay buttoned up and let ICEMAN's team do its job.



Notice the deicing trucks? They currently don't move, and we've just started turning the deicing (orange) and anti-icing (green) spray effects on and off, so for our Alpha rollout, just consider them as nothing more than 'markers' showing where to park.

A few minutes later the deicing/anti-icing chores are finished and we're cleared to continue our taxi! (ACME deicing teams are – without doubt – the quickest and most efficient in the industry.)

After a six-minute taxi to Runway 6, here's a look at the FCDU as we start our takeoff roll.

Notice that 14 minutes have passed since we went OUT. (17:16Z to 17:30Z.)

If we had accepted the Block Time offered by Dispatch, we would be nearly 10 minutes behind schedule! A keen awareness of this (combined with lots of experience) will allow you to modify the Block Time and Fuel request from *your* airline when *you* start using DDFs.



Let's take an overhead view to see how this played out. In the diagram below....

- (1) Our aircraft started at Gate 5.
- (2) We taxied to the DDF near the Runway Start Position for Runway 24.
- (3) We received our treatment.
- (4) We taxied nearly the full length of Runway 6/24.
- (5) We prepared for takeoff on Runway 6.



This begs the question, “Why didn’t we deice at the gate and skip all of the extra taxiing???”

That’s a fair question, but when you look at the tremendous advances that have been made in the glycol recapture technologies and methods over the past few years, it’s become far more economical for airlines to use dedicated deicing facilities.

(Future versions of FSCaptain will include the cost of deicing treatment when using Economic Mode, and when that happens choosing a DDF for your flight will see significant cost savings!)

It also makes sense to remove all the extra ground traffic away from the terminals and ramps and keep everything focused in specific areas. Your AI aircraft will likely not notice since they're *about as intelligent as a load of bricks*. ;-)

So, it all boils down to the fact that using dedicated (designated) deicing facilities is becoming standard practice at more locations around the world. And now you can choose to simulate this process in FSCaptain!



To be fair, we chose this airport (with a single DDF) and the wind coming from the most disadvantageous direction just to highlight the planning that needs to go into flights where DDFs may be used.

Had the prevailing winds allowed us to use Runway 24, or had there been another DDF closer to Runway 24, it would have been a far shorter taxi time... but there would still have been the 4- or 5-minute wait for the deicing/anti-icing treatment... while the flight clock is running.

As such, *always remember to check your Dispatch Release...* you'll find a reminder when conditions may warrant use of a DDF:

- KROA: ONE DESIGNATED DEICING FACILITY IS AVAILABLE.
IF DEICING OFF-STAND, PLAN BLOCK TIME AND FUEL ACCORDINGLY.



And if your favorite airport doesn't appear to have Designated Deicing Facilities, you can learn how to add them by the processes noted in our accompanying document - *Building Designated Deicing Facilities in FSCaptain*.