

Emergencies - Controller Guide

An **emergency** is, by definition, an emergency involving an aircraft in the air that poses a serious and immediate threat for the aircraft and/or its occupants.

The handling of each emergency for the controller is highly individual, as no two situations are the same. This guide should therefore be seen as a basis / orientation.

Relevance to Vatsim

According to the VATSIM Code of Conduct, a pilot may only declare an emergency when they receive ATC service. The controller may request the pilot to terminate the emergency at any time and without giving reasons. The pilot must comply with this request immediately or disconnect from the network.

Furthermore, no hijacking may be simulated and the transponder code 7500 may not be set.

For you as an ATCO this means: **If you are not familiar with handling an emergency, rather refuse it. If you are currently too busy (e.g. due to a high traffic load), or are in doubt for any other reason, it is reasonable to refuse the emergency.** Neither the pilot nor you will benefit in any way if the emergency is handled unsafely, completely unrealistically or carelessly.

Types of emergencies

On the **pilot's side**, there is a difference between the two well-known messages "Mayday" and "Pan Pan":

- A "Mayday" is the notification of an emergency in which there is a serious or imminent danger and immediate assistance is required.
- A "pan pan" is an emergency message in which a safety-relevant situation exists, but does not require immediate assistance.

On the **controller side**, the term emergency is defined much more broadly. A distinction is often made between a local standby, a full emergency and an aircraft accident, although not all types of emergency fit into one of these categories.

- A **local standby** is an aircraft that is known or suspected to have a malfunction which under normal circumstances does not prevent the aircraft from landing safely. Pilots often do not report a "pan pan" or a "mayday", but the flight is still considered an emergency by air traffic control. Certain measures are initiated which can only be simulated on Vatsim (e.g. calling out the fire department)

Examples of a local standby are

- Engine problems (e.g. strong vibrations, single engine failure)
- Hydraulic problems (e.g. flaps cannot be extended)
- Landing gear problems (e.g. nose wheel steering has failed)
- Smoke / odor in the cockpit or cabin
- Problems with cabin pressurization (e.g. broken windscreen)
- Structural problems (e.g. after a bird strike)
- A **full emergency** is an aircraft that is known or suspected to be in an emergency that results in a risk of an accident. The differentiation between local standby is sometimes blurred.

Examples of a full emergency are

- Aircraft fire / engine fire
- Landing gear cannot be extended
- An **Aircraft Accident** is an accident involving an aircraft that is at the airport or in the immediate vicinity of the airport.
- Other emergencies that are not of a technical nature and therefore cannot be classified in any of the categories are, for example:
 - VFR with loss of orientation
 - VFR in IMC
 - Medical emergency in the aircraft
 - Radio failure

Handling of an emergency

As every emergency is different, there is no one-size-fits-all guide for handling emergencies. Nevertheless, there is a scheme that can help you as a controller to handle an emergency in a structured way in a stressful situation. This scheme is known as the **ASSIST scheme**, where each letter stands for a measure:

- **Acknowledge:** The first thing to do is to recognize an emergency as such. The controller should therefore acknowledge "Mayday" and "Panpan" messages and also ensure that the nature of the emergency and any details have been understood correctly.

- **Separate:** The surrounding airspace should be cleared to a greater or lesser extent depending on the emergency. This includes increasing the separation to the emergency aircraft by the center and approach controllers, as the cockpit crew is very busy or very stressed during an emergency and might implement ATC instructions late or incorrectly. On approach, the runway should be cleared as early as possible so that no "tight" maneuvers have to be performed with the aircraft concerned. If necessary, other approaches may be instructed to go around and VFR aircraft may be requested to leave the control zone.
- **Support:** The pilot should be supported as much as possible. However, the pilot should not be distracted with unnecessary radio messages. Among others, the following support options are available:
 - Ask about general support / intentions
 - Suggest nearby / suitable airports
 - List / suggest approach types (depending on the weather, visual approaches may also be an option)
 - If there are several runways, suggest suitable runways (e.g. the longest / widest runway)
 - Clarify whether the pilot can leave the runway after landing and / or taxi normally
 - Simple instructions - radio messages should not contain more than one or two pieces of information
- **Inform:** Other ATC stations affected by the emergency should be informed. For example, the center forwards the emergency to the approach, the approach to the tower and the tower to the ground. In this "game of telephone", particular care should be taken to pass on information correctly.
- **Silence:** Depending on the situation and traffic load, radio silence can be imposed on the frequency. The phraseology here is in accordance with AIP GEN 3.4:
 - "All stations, stop transmitting, MAYDAY"
 - The following phraseology is used to cancel radio silence: "All stations, distress traffic ended"
- **Time:** The pilot should never be stressed by the controller. They should be given sufficient time to solve their problem. Sometimes it can take several minutes to make a decision and work through the relevant checklists.