

# Hospital approach flight through the clouds

**In our feature on pages 8 – 12, you can read how the Uri crew used the instrument flight approach of the Emmen military airfield to fly three casualties from ski areas above the high-lying fog down below the fog cover. In order for Rega pilots to be able to fly directly not only to airfields but also to hospitals in poor visibility, instrument approach flight procedures are needed for hospital helipads. Find out why these approaches are so important, where Rega stands today, and how a hospital approach under instrument flight rules works.**

16

Rega is hoping for IFR approaches to soon be authorised for the hospitals in Nottwil, Zurich, Lucerne and Winterthur.

Poor visibility is still the most common reason for a Rega crew being unable to embark on a mission or having to abort one that is already underway. In order to be able to help even more people in distress in future, Rega has for many years been pursuing its vision of all-weather air rescue. We are working with the Swiss Air Force and the Skyguide air navigation service to develop the so-called Low Flight Network (LFN), which will enable us to perform rescue missions in almost any weather. In future, this network of instrument flight routes is intended to link airports, airfields, hospitals and Rega bases across Switzerland with each other. Rather like on a motorway, the helicopter can then follow a flight route stored in the on-board computer, even in the poorest visibility. This makes missions possible that until then were out of the question.

#### Hospitals as network entry and exit points

Some LFN routes are already established and being used by the Rega crews on their missions; others are still under construction (see map on page 17). But there is more to the network than just individual flight routes: similar to a motorway system, the LFN also needs intersections at which the Rega helicopters can join and leave the route network. Up to now, mainly military airfields like the one in Emmen have served as “access routes”, because they already have authorised IFR approaches. However, Rega would like to use hospitals and Rega bases as

points of entry and exit to and from the network, so that in an emergency, patients can be flown to hospital quickly and safely without detours.

#### Successful pilot project in Berne

How this can work is demonstrated by a pilot project at the Inselspital University Hospital in Berne. This is the only hospital in Switzerland that, since being authorised in 2011, the Rega crews can also fly to and from directly in poor visibility, as it has its own IFR procedure. Now that the system has been operating successfully in Berne for some years and has helped hundreds of patients, the aim is to deploy it elsewhere, too. For example in Nottwil, where casualties with serious back injuries, for whom gentle transportation by rescue helicopter is essential, will be able to be flown to the Swiss Paraplegic Centre located there even in poor visibility – on a direct, fast and safe route.

#### Rega awaiting authorisation

The IFR procedures that Rega has developed for hospital approach flights require approval by the Federal Office of Civil Aviation (FOCA). Rega has submitted the documents required for approaches to the Paraplegic Centre in Nottwil, Zurich University Hospital and the cantonal hospitals in Lucerne and Winterthur and hopes to receive authorisation soon.

As the new IFR procedures make rescue flights possible that until now have had to be declined or aborted, even more patients are

## Instrument flight rules

### IFR approach procedure to a hospital helipad



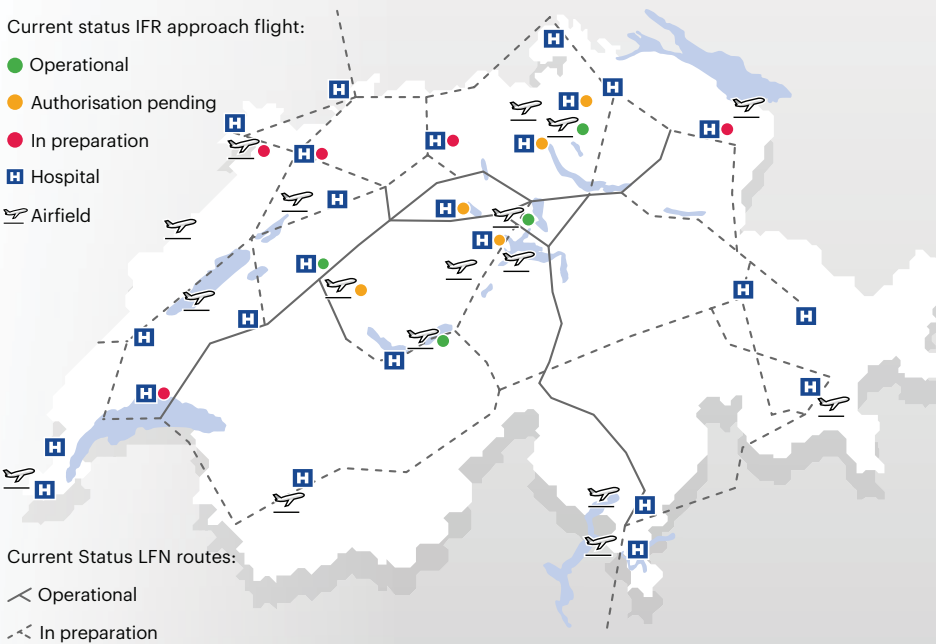
#### How an IFR hospital approach works

The Rega helicopter glides as if on a track through the high-lying fog towards the hospital. The visibility from the cockpit is no more than a few metres. The autopilot navigates the helicopter with great accuracy along a predefined route under instrument flight rules (IFR). During the procedure, pilots do not use their surroundings for reference like on a visual flight, but monitor with the instruments in the cockpit whether the helicopter is following the route stored on the computer. High-precision navigation instruments and cutting-edge satellite navigation systems ensure that the helicopter “knows” where it is in three-dimensional space at any given time. It then arrives at the so-called decision point of the approach flight. This is the defined point at which pilots must decide whether they can deactivate the autopilot and make the approach to land under visual flight rules because the hospital’s helipad is visible – or whether they are forced to continue in instrument flight on the predefined route to an alternative landing site.

### Overview Low Flight Network

Current status IFR approach flight:

- Operational
- Authorisation pending
- In preparation
- Hospital
- ✈ Airfield



Current Status LFN routes:

- Operational
- - - In preparation

set to benefit from medical assistance by air in future. The forthcoming expansion of the LFN to include hospitals and Rega bases therefore means a significant improvement in the provision of medical care by air.

#### Safer missions

The IFR rules also increase safety for patients, crews and third parties. Currently, in dubious weather conditions, the Rega crews must assess whether a visual approach to a hospital is possible or not. If not, they have to divert to

a hospital further afield or transfer the patient to an ambulance – both of which cause delays. With a direct IFR approach, it will be possible in future to fly straight to a hospital even in unstable weather conditions.

The IFR hospital approaches are therefore important components of the Low Flight Network (LFN) – the system of instrument flight routes that is central to Rega’s vision of delivering air rescue to the Swiss population no matter what the weather.

Adrian Schindler



In our video, fly with us on a hospital approach under instrument flight rules :

[www.ifr.rega.ch](http://www.ifr.rega.ch)