

Attachment

ABOUT THE AIR AMBULANCE SERVICE

The national air ambulance service includes both the fixed wing- and rotor wing ambulance aircraft services, as well as Search and Rescue helicopter services performed from bases and locations spread throughout the country. The service today consist of:

- 13 rotor wing aircrafts staffed by anaesthesiologists, are situated at 12 different locations (Tromsø, Evenes, Brønnøysund, Trondheim, Ålesund, Førde, Bergen, Stavanger, Arendal, Lørenskog, Ål (in Hallingdal) and Dombås). The types of aircraft used are Eurocopter EC135P2+, Eurocopter EC145C2, Eurocopter EC145T2 and Agusta AW139.
- 9 fixed wing aircrafts staffed with clinical nurse specialists and doctors if necessary, are situated at 7 different locations (Kirkenes, Alta, Tromsø, Bodø, Brønnøysund, Vigra and Gardermoen). The type of aircraft used is the Beechcraft King Air B200.
- The Armed Forces' Search- and Rescue helicopters staffed with medical personnel are also frequently used in air ambulance missions. They are situated at 6 different locations (Lakselv, Bodø, Ørland, Florø, Sola and Rygge) and are equipped with the same medical capacity as the rotor wing aircrafts. The type of aircraft used is Sea King (replaced by AW101 from 2017-2020).
- Additionally, the Governor of Svalbard's rotor wing aircraft is used as an air ambulance.

The environment in all air ambulance aircrafts are challenging for the equipment taken on board. Vibrations, shocks, large temperature fluctuations, electromagnetic conditions and other factors strains the equipment and, as such, it will need more rigid quality requirements. The requirements for equipment used in pre-hospital services are stricter than for equipment used in hospitals.

The air ambulance service has been organised as a public national service since 1988. Today, the four regional health authorities in Norway have the responsibility for this service. To ensure this responsibility and provide flight operation for the air ambulance service nationwide, The National Air Ambulance Services of Norway was established. The company's primary and prioritised tasks is to offer air ambulance services and medical services for the population 24/7 by administrating the flight operative part of the air ambulance service on behalf of the four regional health authorities. Long-term contracts with civilian helicopter- and fixed wing aircraft operators are used to provide flight operatives for the air ambulance service. New contracts will take part from 2018 (rotor wing) and 2019 (fixed wing), and may lead to other vessels than the mentioned above. Contracted operators have an independent responsibility for aircraft security, including fulfilling the requirements set by The Civil Aviation Authority regarding equipment allowed on board the aircrafts. The National Air Ambulance Services of Norway also have a medical coordination function.

The National Air Ambulance Service of Norway have responsibility for both procuring and maintaining necessary biomedical equipment, including transport incubator systems. An advantage with this type of organisation is the opportunity to standardise the biomedical equipment used in the air ambulance service, with all the benefits it entails. This standardisation is sought continued in the future, transport incubator systems included. The equipment asked for in the offer will be a part of an important national health care service.

FIXATION OF TRANSPORT INCUBATOR SYSTEMS (TIS) IN AIR- AND ROAD AMBULANCES

BACKGROUND

Of the nearly 300 yearly transport incubator missions in Norway involving the air ambulance services, most of them also include the road ambulance service. All the transport incubator missions involving the fixed wing air ambulance service and for most of the operations involving the rotor wing service, road ambulance transport is required between the hospital and airport in one or both “ends” of the mission. In some cases, the same mission includes fixed wing aircraft, rotor wing aircraft and road ambulances. One can thus assume that a normal transport incubator mission include multiple parts of the ambulance services, and in several cases, more times.

SUCCESS FACTORS

Considering this will be a highly important factor in order to complete a transport incubator mission in an unproblematic matter, a functional and safe fixation system must be in place in all the relevant road- and aircraft ambulances. To avoid practical difficulties during demanding medical missions and to prevent compromising security, it is a critical success factor when a new transport incubator system is procured to the air ambulance service that one succeed in creating a flexible and functional solution for fixating the equipment. The tenderer should therefore strongly focus on developing and offer a solution that provides a streamlined transport chain where fixation, along with gas and power connections in different vessels is considered. The contracting authority considers flexible solutions as key, and asks the tenderer to focus on flexibility when preparing proposals for fixation. Cooperation with the contracting authority would be natural in this context.

DESCRIPTION OF THE CURRENT SITUATION

Today there exists several different fixation- and patient stretcher systems in Norwegian road- and air ambulances. The following describes the situation.

THE EXISTING TRANSPORT INCUBATOR SYSTEM

The majority of the transport incubator systems utilised in the air ambulance service today is based on a fixation mechanism from American LifePort Inc., so called “Lifelocks”. Additionally, there are a few older transport incubator systems with Dräger-incubators used by the air ambulance service. However, tenderers should not be considering the fixation of these Dräger-incubators in this procurement.

AIR AMBULANCE

All fixed and rotor wing ambulance aircrafts today are equipped with medical interior from Max Bucher Aerolite AG in Switzerland. Among these, there are different patient stretcher fixation systems. Today the transport incubator system in AW139 and B200 is fixated to the medical interior’s stretcher platform through an adapter customised to the transport incubator system’s “Lifelocks”. In the EC135 and EC145, it exist adapter solutions that are fixated directly to the floor rails and adapted to the transport incubator system’s “Lifelocks”. The adapters are certified through the supplemental type certificate of the medical interior installation.

In ambulance missions and sometimes for transport incubator missions, the armed forces’ Sea King search and rescue helicopter is also used. They have their own adapter fixated to the floor, customised to the transport incubator “Lifelocks”.

ROAD AMBULANCE

The Norwegian road ambulances primarily use stretcher fixation systems from three different manufacturers: Ferno, Stryker and Stollenwerk. From Ferno the majority is the model Mondial, but there are also some stretchers of the model Scan-Flex. From Stryker there is the model M1. Stollenwerk is used to a modest extent, but mostly only in the south eastern part of Norway.

In conjunction with the procurement of existing transport incubator systems in the air ambulance service, some electrical stretchers customised to the fixation system based on "Lifelocks" were bought. This stretcher, named Power Lifter, fits all the stretcher fixation systems mentioned above. It meets the requirements for mechanical strength stated in NS EN 1789 required by the Norwegian road authorities. In hindsight, local road ambulance services have purchased more Power Lifters. Estimation suggests that approximately 20-25 of these are placed within the road ambulance service.

As an alternative to the Power Lifter, adapter solutions have been developed and produced to fit the transport incubator systems based on "Lifelocks". This solution relies upon removing the regular patient stretcher off the stretcher's undercarriage and fixates the adapter to the undercarriage in the original mounting points. This solution also satisfies the requirements for mechanical strength stated in NS EN 1789. Estimations suggest that approximately 10-15 such adapters are in use today.

PLACEMENT OF THE TRANSPORT INCUBATOR SYSTEM

The placement of the transport incubator system varies when not in use. In some areas it is placed on the fixed wing- or helicopter base and will be monitored by the air ambulance personnel. Whereas in other areas, the placement of the system is in hospitals connected to the base, monitored by personnel from the neonatal intensive care unit.

PERSONNEL

The type of personnel that usually follows the patient on transport incubator operations varies. In Tromsø, Bodø and Stavanger, personnel from the hospital's neonatal intensive care unit takes care of patient treatment during the mission. For other parts of the country, the air ambulance personnel primarily complete the mission.

SUMMARY

The tenderers solution for installation in all the respective road- and air ambulances is a critical factor of success within the introduction of a new transport incubator system for the air ambulance service. Flexibility is considered important. Solutions that require substantial modifications of stretcher fixations in road ambulances or medical interior in aircrafts are not desirable.

When introducing a new transport incubator system, it is desirable to be able to use the existing solutions for safe and functional fixation as described above. This will simplify the implementation and limit the cost for development and procurement of new solutions. We request that the tenderers consider these conditions when preparing the offer.

In order to give the tenderers a reasonable opportunity to prepare the conditions described in this document, we want to invite the tenderers to an inspection of the different aircrafts and the respective road ambulances during the offer period.