

# The Collaboration of Swedish National Air Medevac and CoSafe

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*An international exercise between Sweden and Iceland*



The Swedish National Air Medevac (SNAM) is a civil resource developed by the Swedish Civil Aviation Administration for transportation of injured or sick patients, now operated medically by the County council of Västerbotten. The SNAM had their annual exercise for their crew on the 5<sup>th</sup> of September 2009 which took place in Akureyri, Iceland. A group from Sweden and the CoSafe group in Iceland worked together in preparing this exercise. The aim of this exercise was to strengthen the international cooperation concerning preparedness and plans for disaster and emergencies, which is also one of the core aims of the CoSafe projects.

## *Application for SNAM*

SNAM can be used in the event of major disasters when a large number of injured people have to be transported over long distances to several different hospitals within or outside Sweden. SNAM may also be used for different types of international missions. Service like SNAM is a valuable resource in natural disasters as e.g. earthquakes, flooding etc. and in that way relates well to the CoSafe objects.

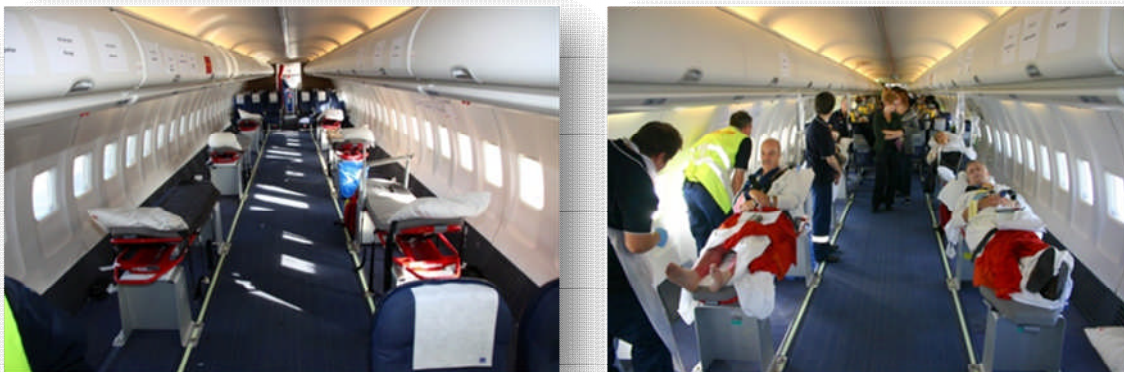
SNAM will utilize one or two converted passenger airliners, Boeing 737-800 from the Scandinavian Airline (SAS) fleet. The service is designed to handle up to six seriously injured patients on each aircraft, another 6-12 patients with the need of intermediate care and provides space for approximately 20 seated patients with less severe injuries. SNAM can transport victims to the best suitable medical facility within a radius of 3000 km without technical stop. The SNAM holds the highest patient-care in-flight standard available and the patients can be given a level of treatment and care equivalent to intensive care in hospital.

### *Preparation time for SNAM*

The SAS will be alerted after an alarm from a disaster task force or medical care unit to the Swedish SOS-Alarm. SNAM will then be given top priority by SAS. The nearest SAS aircraft will be taken out of service and converted from the conventional passenger airliner into a large scale air ambulance. A SAS flight crew and a medical care team comprising physicians and nurses are also alerted and summoned to Arlanda at the same time. The maximum time for mission readiness – from alarm to preparing the air ambulance for takeoff – is estimated to be six hours for the first aircraft.

### *Conversion of the SAS aircraft*

The interior of the aircraft is not modified in order to maintain flexibility and enable quick response times. Advanced lightweight self-contained intensive care stretchers are installed in existing tracks after removing a number of seats. The medical equipment is then connected to



the ordinary electrical system of the airplane. All onboard equipment and installations are certified in accordance with current civil aviation regulations.

The units meet the standards for electrical equipment under vibration according to EUOROCAE RTCA DO 160-C to F as well as the international standard for transport by ambulance and air, water and difficult terrain ambulances.

### *Intensive care units - MICU*

The intensive care units are mobile allowing all medical equipment to accompany the stretcher and admit ongoing patient monitoring and care without any interruption while transported from dispatching hospital all the way to the receiving hospital.

### *The SAS and SNAM Crew*

An SAS flight crew will be summoned and selected from a prepared list of personnel. The crew receives continuous training to maintain the type of competence required for missions using converted air ambulances.

The medical crew consists of 8 doctors (7 anaesthesiologists and one trauma surgeon), eleven nurses specially trained in anaesthesiology and intensive care and one medical technician. They are summoned from a pool of medical personnel trained in aviation medicine and highly experienced in air ambulance operations. They are also trained in a special educational program for SNAM consisting of basic aviation medicine, in



flight procedures and training in air ambulances. The educational program is divided into three steps:

1. **Basic** - a one week course with the theories of aviation medicine and clinical considerations in aviation medicine.
2. **Intermediate** - two days course focusing on the intensive care unit and the SNAM organisation.
3. **Advanced** - a full scale transport exercise with prepared victims from hospital A to B with an aircraft fully converted and equipped.

### *An international exercise*

As previously mentioned the SNAM had their annual exercise on the 5<sup>th</sup> of September 2009. The mutual exercise was organized by the SNAM team and the Icelandic CoSafe team, together with the Akureyri Hospital, the local ambulance service and the volunteer rescue service in Akureyri.



The preparation process was through e-mails, phone and a meeting in Akureyri.

The exercise was very tight scheduled but everything worked out smoothly. The SNAM group was very pleased with the help from everybody involved and the Icelandic CoSafe project team was very privileged to be able to participate in such an international project. The interest was so much within the health care team in the hospital and the rescue service that almost everyone was there on a voluntary basis. The only cost related to this was the cost of the necessary ambulances to ensure the flow from the hospital to the aircraft. The SNAM service paid all the cost.

Several important experiences were brought up and gave ideas for new inventions for the SNAM operation. The main work needed to

be done before the exercise was developing a new fork lift cage for the intensive care stretchers. The available lift at that time was too small for the MICU stretchers as well as rescue personnel. The group in Akureyri invented a new closed lift cage (as can be seen in one of the photos) which can be looked at as a product from the CoSafe exercise. The SNAM team could make a lift, equivalent to this one which could be transportable and part of the necessary equipment in SNAM missions. A normal lift fork is available in most airports but not a closed lift cage as were used in Akureyri, which is much more secure.

The media took part in this exercise. The local radio, local and national newspaper and the national TV were involved in the exercise and interviewed the local organiser (Icelandic CoSafe coordinator) and the SNAM chief medical person which was very good for the sake of introducing the CoSafe project.

## *Summary*

SNAM is maintained by the Swedish Civil Contingencies Agency and operated medically by the County council of Västerbotten. The SNAM can be used in the event of a major accident or disaster, domestically or internationally. The mutual exercise in Akureyri stresses the importance of working together on an international level. A project as the CoSafe project, where the focus is on preparedness and plans for disaster and emergencies in rural areas, is very important in this matter. It is very valuable to have the possibility to disseminate new knowledge, skills and information in order to enhance further international cooperation. That is one of the reasons why Northern Periphery Programme projects are important.

On behalf of the working groups

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