

## **DUTCH SAR over the North Sea**

### **Dutch SAR over the Northsea**

Half surrounded by water, the Netherlands often have to deal with rough seas, and resulting from that many times people get in trouble at sea. While having quite a large fish-industry it can concern fishermen who got in trouble with or on their boats, but it can also concern people on the oil-drill islands under the coast, varying to tourists who got into deep trouble. It's not unusual that civil as well as military helicopter organisations work together in this kind of operations, even with others such as the KNRM, which is an organisation with life-saving boats along the complete coastal lines of the Netherlands.

The Search & Rescue missions over the Netherlands, the part bordering on the North sea were carried out traditionally by the Lynx helicopters of the Royal Dutch Navy. In 1998 a KLM Sikorsky S-76 crashed with a complete drill island crew in the North sea, where all man and power had been turned out. The phantom picture doomed, what would happen if a nowadays daily flying Sikorsky S-61N would crash, and nineteen passengers and helicopter crew would hit the cold seawater ?

### **Bristow Helicopters, new on stage.**

As from that day it will become differently with a good set-up, and a helicopter which

Much is asked of the capacity of a crew as it comes to good and rapidly to be able to make decisions, as it comes to rescuing lives. It asks for a good insight, communicative capacities, and once and for all especially blind trust in yourself and in your colleagues. You must know what you are doing, and very often courage is needed because circumstances are sometimes far from ideal. Once in action it becomes a game of possibilities. All manners are used to search for victims, by means of the radio, by means of visual contact, by means of searchlights and Forward Looking Infra Red (FLIR) in the darkness.

As a pilot you use your intuitive capacities concerning where your victims could be, into account of all factors. Once in contact with-, or only localised a victim, you must assess what possibilities you have. If it concerns a ship then generally first the winchman must be hoisted aboard, next the doctor and his suitcase. This last one is a problem itself, because with high waves not seldom the salt seawater comes over you and your equipment, so the doctors materials have to be secured water-tight. Next sometimes the decision has to be made if a victim is to be stabilised aboard the ship, or in the helicopter, depending again on the circumstances. It can be that a victim requires immediate stabilisation which cannot be given on board as for the weather circumstances and the decision has to be made to help him not before on board of the helicopter. It can make the difference between life and death, but the crew always makes the best decision within the given circumstances.

It can batter considerably on a ship with windforces of six, seven or even more, and if masts of a ship are in the way and a normal hoist is not possible a bag filled up with 50 kilo's of sand can be lowered on deck of the ship by cable. From down the ship this cable be manipulated, and this makes it possible to hoist persons under a certain angle up or downstairs, this method is called 'Hi-line' (Heaving in). Depending on of the condition of the victims then further decisions follow. If immediate far-reaching medical aid is necessary the helicopter will depart directly to a hospital, for example a preference hospital such as a burnwounds-centre. Saved people can possibly be turned off on a drill island to save time for rescuing others, and the helicopter can also fill up fuel here to obtain new victims. Coming into action is an impressive event. All rescue actions later on are gone through debriefing which sometimes leads to better processing in future actions, never too old to learn...

### **On a visit at Bristow**

Bristow SAR services have been initiated by the cooperating oil societies (NOGEPa) and since 2003 they have been equipped with the splendid Super Puma helicopter. The offshore flies with many full shuttle services on Den Helder especially between 07.00-09.00u and 17.00u-19.00u. Safe safety programs are an absolute must. Everyone in the offshore gets a course how to act in case of a crash in sea. One example is that a person must know his position in the helicopter, and to be able to make orientation while the helicopter might be twisted on his head. One carries obligatory Nutex thermo-clothing with loosing layer system which provides a short time thermal protection in cold seawater, also life jackets with a small rescue boat and a need land-mark. (orientation baken) The directive is that a person may stay no

longer than two hours floating on sea. A regular training with dummy's requires that 21 men are hoisted in the helicopter within half an hour maximum, and in sum within two hours after the call came in. Within this time period they must have been brought to a safety spot (for example drill island). From sea into the helicopter, hanging on a height of 40 feet, only 20 seconds are standard.

To satisfy in this the Super Puma and its crew have a 15 minutes alert status within this time the super Puma must be airborne from its base Den Helder Airport. This applies to by day 07:30-21:00u because in the night (21:00u-07:30u) an hour reaction time is allowed. Though Coast Guard can ask for assistance on both the Royal Dutch navy, as well as Bristow, in case of great calamities a helicopter like G-JSAR will certainly be part of the action. Only in 2005 there were 55 call outs of this kind for the helicopter.

### **The Super Puma**

This helicopter has many possibilities. The twin-engined helicopter is very wide inside. Loose matters such as the 'first response back pocket' with medical appliances lies behind in a cupboard in the cabin. In the helicopter infuses can be moored, there is a defibrillator and pro-paq for blood pressure, possibility for oxygen saturation and heart rhythm equipment.. Also reanimation and artificial breathing can be applied. The difference between a HEMS-hot helicopter (Helicopter EMERGENCY Service) and a SAR-helicopter (Search And Rescue) is that first one brings a trauma-team to the accident and a SAR helicopter brings a victim to the trauma-team. Helicopter crews all have had an Advanced Traumatism Life Support course (ATLS) which is the standard procedure to be able to be part of it, though in the Netherlands is required a much more severe training than in other European countries.

The Super Puma has many technical extra's and is equipped with most modern avionics such as a 'glass cockpit' with many digital screens, Flight Management System with Global Positioning System (GPS) and INS system and extremely sophisticated four-spindled (axle) autopilot. As soon as someone sees the drowning person he immediately shouts: 'now-now-now', with one button the fix-trans-down can be activated so the helicopter flies at itself a circuit on the autopilot. All four crew members have the occasion that way to examine the situation. Hovering is possible on each altitude you want but generally it goes at 40 feet high.

The super Puma is the only SAR helicopter in the Netherlands equipped with both a mechanical and a electric hoist. It is possible to hoist two men at the same time by one hoist with a weight limit of 275 kilogrammes. De Puma has a 360 degrees FLIR, is equipped with night vision goggles and two videocamera's, one on the Flir, and one recording along the winch-cable, amongst others for debriefing purposes. The searchlight is very very strong, and is called the 'night-sun'. You must beware of the fact that you do not approach the victims too close or shine on directly, because one can very easily get burning wounds by this strong light. Next there is a speaker so you can talk to the people you want to save, and also a strong siren is on board for any purpose required. The winchman has the possibility to control the helicopters autopilot in the back and he can also navigate by GPS. Next to that the warmth-

image of the FLIR can be observed by the crew in the back on a screen. Two lamps have been aimed at the tips of the rotor so that you can see clear in obscurity what you do with the helicopter and where your (rotor) limits are.

### **Delimit of area.**

In cases of need in border areas, Belgian or British Seakings, German super Lynx's or Danish Merlin helicopters can be cooperated there and called in for help. Much more often however communication will be with the KNRM rescue boats. Where in United Kingdom always a heli must be called in for help, in the Netherlands there is a unique system which provides a rescue boat from the KNRM, who are available on each 30 miles coastal area. These enter as from the waterrange and can rapidly move themselves. In case of a SAR action you have considerably many competences, thus Captain Marjolijn the Greef from Bristow Helicopters.

Missions are flown with visual flight rules (VFR) and instrument flight rules (IFR). 'Amsterdam information' gives recommendation you can follow (or not) , but 'Dutch Mill' traffic control give binding movement control which must be obeyed. Once airborne after a sudden recall during the flight the situation is deepened more by means of radio contact with the coast guard. How many victims, what and where? The coast guard operates frequencies by means of the UHF and the normal fly movement by means of the VHF. Furthermore on sea foreign communication support points are consulted such as Anglia-radar or Copenhagen information.

### **The exercise**

While we already have been flying with the Lynx of the Royal Dutch Navy, as reporters of Aranyzas magazine we gladly accept an invitation to fly with G-JSAR with pilots Captain Mrs. Marjolijn the Greef and Captain Mr. Patrick van der Voort.

After a short introduction with the winch above land at about ten meters high, and instruction of winchoperator Pete Mesney we fly in transit to the 'Marsdiep water' where the encounter is planned with the 'Dorus Rijkers', the KNRM rescue boat of Den Helder rescue. After a couple of times having circled around the boat at full sea, the helicopter takes a fast turn, and flying slantly above the rescue boat which has a considerable speed and capacity over the water, everything gets a nice '007 James Bond' quality ! The door opens and we go one by one, by means of the hoist down to the cold, salty sea-water, that is after winchman Mr. Michael Bes preceded us down to the Life-saving boat. When winchoperator Pete Mesney's thumb goes up, I reply with the same signal, and two seconds later the winch-cable pulls me out of the helicopter.

Again seconds later you hang on a long steel cable, approaching the small rescue-boat of about ten meters long at rough sea. At that moment you only think: 'So, that's it. This is what it is all about'. Before you realise, Michael Bes already grabs your akles and and you stand on deck of the boat. Everything seems to be a calculated film without emotion. Other feelings come up immediately when you hit the deck of the boat, if you are swung backwards, forwards and sideways, if you have to remain on board, shuffling along the side of the small boat from behind to the front, at wind strength 6-7.

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From time to time the boat lifts your complete body from the deck in the air, while salty large waves of water float all over your body and equipment. Watertight suitcases for your camera's end equipment are an absolute must, and it was almost impossible to make pictures from out of the boat. After a number of people of the 'Dorus Rijkers' were hoisted upwards the helicopter, got on board and went down again, we had to return to the helicopter. You are then actual best, however, glad To be on board of the helicopter again !

Deeply under the impression of the teamwork and absolutely having the feeling that you were in safe hands of all involved, we fly back to the base Den Helder. Should it ever be necessary that you need the services of these people and this kind of organisations, you just know that they are very competent people who come to get you and care for you, and that does not only go for the Netherlands but we guess all these motivated crews of these organisations in all countries. The story comes in mind from during the interview that captain Marjolijn de Greef had her first rescue action with the G-JSAR Puma. Having a naval doctor on board, they went out for help for a fisherman who got stuck in the ships hoisting-installation with his arm. His life was saved by the doctor, and the fast transport to a hospital by the helicopter. Many times this kind of actions followed. We now know that these people go to the limits, to the extreme borders of ability, when one is in need.

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