9 CRITERIA FOR SAR HELICOPTER COVERAGE

9.1 Introduction

This section presents the criteria which has been set out for SAR Helicopter coverage. This criteria has been developed through a review carried out by the UK SAR Helicopter Provision Working Group (Members are listed in Appendix 1).

A fundamental fact when considering SAR criteria is that speed of response in recovering a survivor from a hazardous situation is directly linked to the chances of survival of the individual or group in distress. However, a SAR operation can only be initiated once the alarm has been raised and the details such as approximate location of the survivor can be established. There is no way of determining the time between an incident occurring and the raising of an alarm because of the infinite number of different situations. Nevertheless, it was acknowledged that an improvement in communication systems such as the use of the Global Maritime Distress and Safety System at sea and the common use of mobile phones had contributed to the overall reduction in SAR notification times. In addition, the working group firmly believed that the rescuers, in this case the helicopter crew, should not put themselves in any greater risk than necessary when carrying out a SAR task both in the time taken to launch or during the operation. The group therefore agreed that the **prime objective for a SAR helicopter was to reach a survivor or survivors within any part of the UKSRR as quickly and safely as possible**.

9.2 Criteria

Within the overarching criteria of arriving on scene as quickly and safely as possible, the group then considered how quickly the helicopter should take off once notified of the incident to give representative planning figures to the rescue co-ordinators such as the ARCC and MRCC. Experience has proved that it takes longer, physically, to start the aircraft in the dark and to carry out the necessary night-flying checks and longer to plan the sortie at night, because more detailed planning must be undertaken for night-flying due to the higher crew workload. It was decided that **a SAR helicopter should take-off as quickly and safely as possible, normally within 15 minutes by day and 45 minutes by night, from receiving notification of the incident by the appropriate RCC**.

Within the overarching objective, at para 9.1, the group recognised that there were limitations to the cover of SAR helicopters because of the physical range/endurance of helicopters and their location. Whilst it was recognised that a SAR helicopter could not presently reach the Western edge of the UKSRR (30°W) from a land base, it should remain an aspiration for future consideration. Consequently, it was decided that the location and associated coverage of SAR helicopters should be optimised to cover those areas in the UKSRR with the highest need. Naturally, this is directly linked to the risk assessment. The group also acknowledged that it was impossible to cover all the areas of need within existing resources and therefore decided that a figure of 75% of medium risk areas was reasonable.

The group then considered linking the time of arrival on scene/response time to survival times in water and land. Much work has been carried out to determine survival times, based on historical and scientific data, for different combinations of water/air temperature and clothing/equipment. However, not surprisingly, survival times vary greatly depending on temperature, weather conditions and equipment worn. The physiology and psychology of the survivor is another very important factor. A note from Dr Howard Oakley at the Institute of Naval Medicine is presented

in Appendix 2 detailing the uncertainty and complexity surrounding predictions made on survival times in the water.

The group decided that the variations in equipment and clothing of potential SAR survivors and the variations in temperature and conditions in and near the UK throughout the year was so great that average survival times for land and for the sea had little or no meaning. Furthermore, any injury sustained could significantly reduce a survivor's survival time. The group agreed that the most practical and meaningful method of determining helicopter coverage and helicopter basing was to consider the time taken from take off to reaching the survivor, assuming that the survivor can be found immediately without the need for search. The group decided that the time taken to reach a survivor from take off should be 1 hour.

Therefore, amalgamating the decisions made in paras 8.3 and 8.4, the group decided that: **Within the overarching Criteria 1, a SAR helicopter should be capable of reaching all very high and high risk areas and 75% of all medium risk areas within the UKSRR, as described by the UK SAR Helicopter Provision Group (depicted by the risk assessment results), within 60 minutes of take off**.

The working group also considered that another fundamental criteria for SAR helicopters was that the helicopter should be available at all times throughout its operating times, notwithstanding it being deployed on a SAR task. Recognising practicality, the group felt that 98% was a realistic figure for helicopter availability. Availability means that the helicopter is 'on-state' ie the aircraft is serviceable, correctly roled for SAR and ready to take off as soon as the crew have completed their planning, pre-start checks and starting procedures; it also assumes that a crew is immediately available. In addition, it was acknowledged that to achieve this level of availability for 1 aircraft, it was necessary to provide a second aircraft that could be on-state whilst routine and minor servicing of the primary aircraft was being carried out. Furthermore, the group believed that a second helicopter and crew should be made available at certain military bases at 1 hour's notice to provide a surge capacity for large disasters or be able to replace the first standby aircraft if it was deployed on a long-range SAR task. Therefore, **there should be a SAR helicopter available 'on-state' at each SAR base for 98% of the base's declared SAR operating time; usually 24 hours per day throughout the year. In addition, to cater for concurrent SAR tasks and to provide a surge capacity for large disasters, a second helicopter and crew should be available at certain military SAR bases.**