Life Support Packages

1. Recently there has been some confusion with regards to the IMCA guidance on life support packages (LSP) contained in Section 16 of IMCA D 024 – *DESIGN for saturation (bell) diving systems* – and Section 5.4 of IMCA D 052 – *Guidance on hyperbaric evacuation systems*. This information note has been prepared to provide better clarity on this topic until both IMCA D 024 and IMCA D 052 can be amended to better explain the functional requirements of LSPs.

2. IMCA recognises that the current wording within Section 16 of IMCA D 024 and Section 5.4 of IMCA D 052 may be misleading and there may be other ways to meet the intent of the guidance.

   IMCA D 052 correctly states:

   > *"The exact detail of the LSP will be dependent on the planning and risk assessment for the method of recovering the HRU and carrying out the decompression. In some circumstances the LSP may be already built in to a specialised recovery vessel and in other cases may be needed only to provide support during transport of the HRU from the recovery site to a nominated HRF."*

3. The basic requirement is that two complete heating and cooling systems should be available so that the failure of one system does not compromise the heating or cooling capability required to support the self-propelled hyperbaric lifeboat (SPHL) or hyperbaric rescue chamber (HRC).

   The two complete heating and cooling systems do not need to be housed within the same LSP. For example, one system may be located in the SPHL and this will remain functional as long as the SPHL is in the water or can access an appropriate cooling water supply. The other may be housed in an LSP which only contains a single heating and cooling system.

   Around the world it is very common for LSPs only to be fitted with one heating and cooling system. For convenience these may be referred to as Class 1 LSPs.

   LSPs fitted with two complete heating and cooling systems are also available. These may be referred to as Class 2 LSPs.

   It is perfectly acceptable to meet the requirement of having two heating and cooling systems available by providing two Class 1 LSPs. It is also perfectly acceptable to use an SPHL's heating and cooling system at the reception site as one system, with a single Class 1 LSP providing the second or redundant/backup system. The precise arrangements for each diving project should be subject to risk assessment and made part of the hyperbaric evacuation plan (HEP) for the project.

   If the HEP involves transporting an SPHL from a quayside to an inland HRF it may be acceptable, subject to the findings of the risk assessment, to use a Class 1 LSP for short land transits. The safety of the divers is of course paramount.

4. In any case a diving contractor's HEP needs to identify suitable life support requirements. The plan needs to clearly identify all life support safety critical elements and explain how a suitable level of redundancy/backup will be provided.

   In all cases it is essential that there is an adequate level of redundancy/backup in the life support arrangements to ensure the safety of the divers whilst they are in the SPHL or HRC. Any system failing to meet these provisions will fail to meet IMCA's requirements.

5. The HEP as a minimum will need to include the functional requirements and redundancy/back-up levels to ensure the safe transit, survival and decompression of the divers.

6. Once the HEP is developed or revised, provision should be made to test it periodically. Assessment of some sections of the HEP may be undertaken as a desktop exercise.

This information note has been issued to help diving contractors prepare a hyperbaric evacuation plan which includes the use of an LSP. It is recognised that in some cases the arrangements adopted may differ from the current requirements as detailed in Section 16 of IMCA D 024. This is acceptable provided all life support safety critical elements are identified in the HEP and a suitable level of life support redundancy/backup is always made available.