Information Note
No. 1597 – December 2021

Summary of 2021 DESIGN Changes for Hyperbaric Rescue Unit (HRU) Life Support Packages (LSP)

IMCA D 024 Rev. 2 *DESIGN for saturation (bell) diving systems* was published in July 2014. Section 16 of that document covered DESIGN requirements for Hyperbaric Rescue Unit Life Support Packages. During the preparation of IMCA D 024 Rev. 3, it was recognised that an LSP is kept in a different physical location to the equipment covered by IMCA D 024, and so the LSP should have its own separate DESIGN document.

In view of the above, Section 16 of IMCA D 024 Rev. 2 was not included in IMCA D 024 Rev. 3. The DESIGN requirements for an LSP are now published in the stand-alone document IMCA D 063 *DESIGN for Hyperbaric Rescue Unit (HRU) Life Support Packages (LSP)*.

This Information Note summarises the changes that were made during the D 024 Section 16 to IMCA D 063 update process.

Table 1 – Summary of Changes Made to the HRU LSP Requirements During the 2021 DESIGN Revision

	Location of Item	Summary of Changes Made	Reason
1.	IMCA D 063 *DESIGN for Hyperbaric Rescue Unit (HRU) Life Support Packages (LSPs).*	IMCA D 024; Section 16 removed in its entirety and transferred to a stand-alone DESIGN document IMCA D 063.	LSPs are not normally co-located with the rest of the saturation diving system. It is therefore more practical to make the old IMCA D 024, Section 16 available to DESIGN auditors as a stand-alone document.
2.	IMCA D 063; Item 2 *System Assessment*	The System Assessment has been split into two parts: ♦ *2A LSP System Assessment – General*; and ♦ *2B LSP System Assessment – Automated Control Systems.* The text of the 2A assessment has been revised to read: "A systematic assessment of the LSP system should be available to demonstrate that the equipment provided for the diving operation is both adequate and fit for its intended use. This assessment must include an FME(C)A." The 2B assessment is new and requires: ♦ 2B1 - Identification of Automated Control Systems. ♦ 2B2 - Categorisation of Automated Control Systems. ♦ 2B3 - Assessment of Safety Critical Automated Control Systems. Guidance on satisfying the IMCA DESIGN requirements for the systematic assessment of	1. To ensure that appropriate systematic assessments of saturation diving systems are undertaken and made available. 2. To ensure that appropriate systematic assessments of automated control systems in saturation diving systems are undertaken and made available.

	Location of Item	Summary of Changes Made	Reason
		control systems in automated diving plant and equipment is contained in IMCA D 069.	
3.	IMCA D 063 *Electrical Power*; Item 6.9 *Electrical Testing*	Text revised to read: "Visual examination, function test (including protective devices) plus continuity and resistance tests of all cables and electrical equipment within the last 6 months OR in accordance with a detailed electrical testing schedule prepared by a competent person".	To allow companies with modern complex diving systems to create their own electrical testing procedures and methodologies in line with the recommendations of competent persons.
4.	IMCA D 063; *Electrical Power*; Item 6.10 *Emergency Power Testing*	Text revised to read: "A test should have been carried out within the last 12 months to demonstrate the functioning and adequacy of emergency electrical power supplies." Updated to align with the revised IMCA D 018, Detail Sheet 37.	To ensure the functioning and adequacy of emergency electrical power supplies.
5.	IMCA D 063; *Electrical Power*; Item 6.11 *UPS Testing*	Text revised to read: "UPS Testing – Where a UPS is fitted, a test should have been carried out within the last 12 months to check power continues to be supplied in normal circumstances, through bypassing the UPS, in the event of a UPS failure, and that the visual and/or audio indication of such failure functions correctly." Updated to align with the revised IMCA D 018, Detail Sheet 37.	1. To ensure there is a visual and/or audio indication if the UPS fails; and 2. To ensure the normal supply is maintained in the event of UPS failure.
6.	IMCA D 063 *Container*; Item 7.2 *Dividing Wall*.	Text revised to clarify that there need not be a dividing wall in place between the control and machinery areas of an LSP providing there are noise reduction measures in place for the safe operation of the system.	For some designs of LSP it is not reasonably practicable to fit a dividing wall between the control and machinery areas.
7.	IMCA D 063 *Control Area*; Item 8.3 *Breathing Apparatus – Provision.*	Text revised to include a requirement for emergency breathing apparatus cylinders (umbilical supplied or self-contained) to be of suitable capacity and endurance.	Storage cylinders or self-contained breathing apparatus (SCBA) sets must have the capacity and endurance required should they be needed in an emergency.
8.	IMCA D 063 *Control Area*; Item 8.4 *Breathing Apparatus – Umbilical Supply.*	Text revised to include a requirement for umbilical supplied emergency air to be fed from cylinder stored compressed air source(s).	It would be very difficult to ensure that in an emergency situation (e.g. during a fire) the air intake for a compressor providing umbilical supplied emergency air will always be situated in a contaminant free zone.
9.	IMCA D 063 *Control Area*; Item 8.22 *Gauge Calibration*	Text revised to include the following note: "Note: The frequency and nature of the calibration of pressure sensors and gauges integral to automated functions may be defined in a scheme prepared by a competent person."	To allow companies with modern complex diving systems to define the frequency and nature of the calibration of pressure sensors and gauges integral to automated functions in line with

	Location of Item	Summary of Changes Made	Reason
			the recommendations of competent persons.
10.	IMCA D 063 *Control Area*; Item 8.38 *Electrical Testing*	Text revised to read: "Visual examination, function test (including protective devices) plus continuity and resistance tests of all cables and electrical equipment within the last 6 months OR in accordance with a detailed electrical testing schedule prepared by a competent person".	To allow companies with modern complex diving systems to create their own electrical testing procedures and methodologies in line with the recommendations of competent persons.
11.	IMCA D 063 *Control Area*; Item 8.39 *Emergency Power Testing*	Text revised to read: "A test should have been carried out within the last 12 months to demonstrate the functioning and adequacy of emergency electrical power supplies." Updated to align with the revised IMCA D 018, Detail Sheet 37.	To ensure the functioning and adequacy of emergency electrical power supplies.
12.	IMCA D 063 *Control Area*; Item 8.40 UPS *Testing*	Text revised to read: "UPS Testing – Where a UPS is fitted, a test should have been carried out within the last 12 months to check power continues to be supplied in normal circumstances, through bypassing the UPS, in the event of a UPS failure, and that the visual and/or audio indication of such failure functions correctly." Updated to align with the revised IMCA D 018, Detail Sheet 37.	1. To ensure there is a visual and/or audio indication if the UPS fails; and 2. To ensure the normal supply is maintained in the event of UPS failure.
13.	IMCA D 063; *HRU Chamber Environment Heating and Cooling*; Item 9.2 *Redundancy*.	Text revised to clarify that the system comprising the LSP and the HRU should have sufficient backup for heating and cooling arrangements to ensure the safety of the divers. The revised requirement makes clear that this can be achieved in a number of ways provided all life support safety critical elements are identified in the diving contractor's Hyperbaric Evacuation Plan (HEP) and a suitable level of life support redundancy/backup is always made available.	Clarification required to support Information Note IMCA D 04/16 *Life Support Packages*.
14.	IMCA D 063 – all sections and items referencing IMCA D 018 Detail Sheets 24.1 and 24.2.	Validity period of gas leak tests at maximum working pressure of gas-only systems changed from 2 years to 2.5 years where appropriate.	To align with the IMCA D 018 chamber pressure testing regime (Detail Sheets 25.1 & 26).

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