

Summary of IMCA D 023 Document Changes 2022

IMCA D 023 Rev. 1 *DESIGN for surface orientated (air) diving systems* was published in January 2014. The latest revision of IMCA D 023 has now been published (Rev. 2). This Information Note summarises the changes that were made during the Rev. 1 to Rev. 2 update process.

Table 1 – Summary of Changes Made During IMCA D 023 Rev. 1 to Rev. 2 Update Process

	Location of Items in IMCA D 023 Rev. 1 Edition	Summary of Changes Made	Reason
1.	IMCA D 023; Section 1 <i>General Safety</i> , Item 2 <i>System Assessment</i> .	2A <i>Diving System Assessment – General</i>; and ♦ 2B <i>Diving System Assessment – Automated Control Systems</i>. The text of the 2A assessment has been revised to read: “A systematic assessment of the diving 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 or detailed Risk Assessment.” 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 control systems in automated diving plant and equipment is contained in IMCA D 069.	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.

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	Location of Items in IMCA D 023 Rev. 1 Edition	Summary of Changes Made	Reason
2.	IMCA D 023; Section 1 <i>General Safety</i>; new Item (7.6) <i>Electrical Testing</i>. Note: This change affects all electrical and component testing requirements in IMCA D 023.	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.
3.	IMCA D 023; Section 1 <i>General Safety</i>; Item 7.6 <i>Testing</i>. Note: This change affects all emergency power testing requirements in IMCA D 023.	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.
4.	IMCA D 023; Section 1 <i>General Safety</i>; new Item (7.8) <i>UPS Testing</i>. Note: This change affects all UPS testing requirements in IMCA D 023.	Text given separate line item and 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.
5.	Section 1 <i>General Safety</i>. New subsection (9) added between old Section 8 <i>Pressure Relief Valves</i> and old Section 9 <i>Medical Equipment</i>. IMCA D 023; Section 1 <i>General Safety</i>; Subsection 9 <i>Flexible Hoses</i>.	Additional section covering requirements for flexible hoses added.	New subsection for flexible hoses included in Section 1 – <i>General Safety</i> to help ensure the requirements for these items of equipment are comprehensively addressed. Note: These requirements are also found in other sections of the documents to serve as timely reminders in those locations.
6.	IMCA D 023; Section 1 <i>General Safety</i>; new Item (9.1) <i>Hoses</i>.	Text of requirement reads: “All hoses must be suitable for the purpose, properly installed and protected from damage.”	Included in Section 1 to help ensure the requirements for these items of equipment are comprehensively addressed.
7.	IMCA D 023; Section 1 <i>General Safety</i>; new Item (9.2) <i>Securing</i>.	Text of requirement reads: “All hoses must be appropriately supported and secured at intervals not exceeding 2m.”	Included in Section 1 to help ensure the requirements for these items of equipment are comprehensively addressed.

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8.	IMCA D 023 ; Section 1 <i>General Safety</i> ; new Item (9.3) <i>Hose Identification</i> .	Text of requirement reads: “It must be possible to identify all hoses and their latest test date. Such as by means of a hose register or PMS record.”	Included in Section 1 to help ensure the requirements for these items of equipment are comprehensively addressed.
9.	IMCA D 023 ; Section 2, <i>Dive Control</i> ; Item 5.7 <i>Air Supplies – To the Diver</i> .	Text revised to add the qualification “... to the degree that the diver’s safety is impaired.”	Should a diver’s supply line fail, no matter the arrangement adopted, it may still be possible to detect some slight degree of “interference” for another diver.
10.	IMCA D 023 ; Section 2 <i>Dive Control</i> ; Item 7.12 <i>Gauge Calibration</i> .	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 the recommendations of competent persons.
11.	IMCA D 023 ; Section 2 <i>Dive Control</i> ; Subsection 8 <i>Pipework and Valves</i> .	Title revised to read: “Pipework Systems, Valves, Regulators and Relevant Fittings.”	To provide a fuller description of the item contents.
12.	IMCA D 023 ; Section 2 <i>Dive Control</i> ; Item 8.10 <i>Pipework Testing</i> . Note: This change affects all valves and pipework gas leak testing requirements in IMCA D 023 .	Text revised to read: “Valves and pipework need to have had a gas leak test to maximum working pressure in last 2.5 years.”	To align with the IMCA D 018 pipework testing regime (Detail Sheets 24.1 & 24.2).
13.	IMCA D 023 ; Section 2 <i>Dive Control</i> ; new Item (9.3) <i>Electrical Testing</i> . Note: This change affects all electrical and component testing requirements in IMCA D 023 .	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.

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14.	IMCA D 023; Section 2 <i>Dive Control</i>; Item 9.3 <i>Testing</i>. Note: This change affects all emergency power testing requirements in IMCA D 023.	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.
15.	IMCA D 023; Section 2 <i>Dive Control</i>; new Item (9.5) <i>UPS Testing</i>. Note: This change affects all UPS testing requirements in IMCA D 023.	Text given separate line item and 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.
16.	IMCA D 023; Section 2, <i>Dive Control</i>; Item 12.1 <i>Breathing Apparatus – Provision</i>.	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.
17.	IMCA D 023; Section 2, <i>Dive Control</i>; Item 12.2 <i>Breathing Apparatus – Umbilical Supply</i>.	Text revised to read: “If emergency air for the supervisor (and winch operator if relevant) is umbilical supplied, it should be fed from cylinder stored compressed air. The cylinder stored compressed air source for the umbilical supplied surface breathing apparatus should be separate to compressed air sources intended for the use of divers. SCBA with suitable capacity and endurance should also be available to allow escape.”	It would be very difficult to ensure that in an emergency situation (e.g., during a fire or H ₂ S alert) the air intake for a compressor providing umbilical supplied emergency air will always be situated in a contaminant free zone.
18.	IMCA D 023; Section 3, <i>Twinlock Air Chamber</i>; Item 3.5 <i>Viewport Testing</i>.	Text revised to read: “Relevant pressure testing of the viewport should be in accordance with the design standard of the chamber and/or a suitable viewport manufacturing code such as ASME PVHO-1.”	To provide clarity on viewport pressure testing requirements.

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19.	IMCA D 023; Section 3, <i>Twinlock Air Chamber</i>; Item 5.1 <i>Paintwork</i>. Note: This change affects all chamber paintwork/corrosion requirements in IMCA D 023.	The chamber paintwork and corrosion requirements have been split into two separate line items: <i>Paintwork</i> and <i>Corrosion</i>. The paintwork requirement has been changed from a 'Need A' to a 'Need B.' The text of the two requirements in the separate line items read: 5.1 "Paintwork should be in good condition." 5.2 "The chamber should be free from serious corrosion."	To provide greater clarity on chamber paintwork and corrosion requirements.
20.	IMCA D 023; Section 3, <i>Twinlock Air Chamber</i>; Item 6.1 <i>Paintwork</i>. Note: This change affects all chamber paintwork/corrosion requirements in IMCA D 023.	The chamber paintwork and corrosion requirements have been split into two separate line items: <i>Paintwork</i> and <i>Corrosion</i>. The paintwork requirement has been changed from a 'Need A' to a 'Need B.' The text of the two requirements in the separate line items read: 6.1 "Paintwork should be in good condition." 6.2 "The chamber should be free from serious corrosion."	To provide greater clarity on chamber paintwork and corrosion requirements.
21.	IMCA D 023; Section 3 <i>Twinlock Air Chamber</i>; Item 6.30 <i>Gauge Calibration</i>.	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 the recommendations of competent persons.
22.	IMCA D 023; Section 3 <i>Twinlock Air Chamber</i>; Item 6.37 <i>Electrical Testing</i>. Note: This change affects all electrical and component testing requirements in IMCA D 023.	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.

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23.	IMCA D 023 ; Section 3, <i>Twinlock Air Chamber</i> ; Item 8.1 <i>Breathing Apparatus – Provision</i> .	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.
24.	IMCA D 023 ; Section 3, <i>Twinlock Air Chamber</i> ; Item 8.2 <i>Breathing Apparatus – Umbilical Supply</i> .	Text revised to read: “If emergency air for the supervisor (and winch operator if relevant) is umbilical supplied, it should be fed from cylinder stored compressed air. The cylinder stored compressed air source for the umbilical supplied surface breathing apparatus should be separate to compressed air sources intended for the use of divers. SCBA with suitable capacity and endurance should also be available to allow escape.”	It would be very difficult to ensure that in an emergency situation (e.g., during a fire or H ₂ S alert) the air intake for a compressor providing umbilical supplied emergency air will always be situated in a contaminant free zone.
25.	IMCA D 023 ; Section 4, <i>Diver Launch and Recovery System (LARS)</i> ; Item 1.2 <i>Weight</i> .	Text revised to include the following notes: Note 1: For the purpose of this calculation the weight of a fully kitted diver is considered to be 150 kg. Note 2: For classed diving systems the class society may specify a different diver weight.	To provide a specific weight to be used for calculating the weight of a fully manned and equipped diving basket or wet-bell.
26.	IMCA D 023 ; Section 4, <i>Diver Launch and Recovery System (LARS)</i> ; Items 2.13 & 2.14, <i>Winch Testing</i> , plus two new items.	Updated to align with the revised IMCA D 018 , Detail Sheet 22.1.	To maintain the consistency of IMCA guidance and reduce the need for overload testing.
27.	IMCA D 023 ; Section 4, <i>Diver Launch and Recovery System (LARS)</i> , Item 3.3 <i>Lubrication</i> .	Text revised to read: “Unless the wire is to be renewed every 2 years, from the time the wire rope is taken into service (i.e., fitted to the winch) it should be pressure lubricated every 6 months, at least from the diving basket or wet bell back to the maximum depth of immersion in the period. If it has been laid up for a substantial period, then it should have been pressure lubricated before lay-up.	To clarify the requirements for all diving basket or wet bell wire rope lubrication.

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		Contractors should follow the wire rope manufacturer's recommendations and have a documented maintenance regime and wire rope policy in place."	
28.	IMCA D 023; Section 4 <i>Diver Launch and Recovery System (LARS)</i> ; Items 3.4 to 3.9 <i>Wire Testing</i> ; plus, one new item.	Updated to align with the guidance contained in IMCA LR 001/IMCA SEL 022/IMCA M 194, and IMCA D 018, Detail Sheet 29.1.	To maintain the consistency of IMCA guidance and remove the need for overload testing following re-termination.
29.	IMCA D 023; Section 4 <i>Diver Launch and Recovery System (LARS)</i> ; Items 4.17 & 4.18 <i>Winch Testing</i> ; plus, two new items.	Updated to align with the revised IMCA D 018, Detail Sheet 22.1.	To maintain the consistency of IMCA guidance and reduce the need for overload testing.
30.	IMCA D 023; Section 4, <i>Diver Launch and Recovery System (LARS)</i> , Item 4.21 <i>Lubrication</i> .	Text revised to read: "Unless the wire is to be renewed every 2 years, from the time the wire rope is taken into service (i.e., fitted to the winch) it should be pressure lubricated every 6 months, at least from the diving basket or wet bell back to the maximum depth of immersion in the period. If it has been laid up for a substantial period, then it should have been pressure lubricated before lay-up. Contractors should follow the wire rope manufacturer's recommendations and have a documented maintenance regime and wire rope policy in place."	To clarify the requirements for all diving basket or wet bell wire rope lubrication.
31.	IMCA D 023; Section 4 <i>Diver Launch and Recovery System (LARS)</i> ; Items 4.22 to 4.27 <i>Wire Testing</i> ; plus, one new item.	Updated to align with the guidance contained in IMCA LR 001/IMCA SEL 022/IMCA M 194, and IMCA D 018, Detail Sheet 29.1.	To maintain the consistency of IMCA guidance and remove the need for overload testing following re-termination.
32.	IMCA D 023; Section 4 <i>Diver Launch and Recovery System (LARS)</i> ; Item 8.7 <i>Electrical Testing</i> Note: This change affects all electrical and component testing requirements in IMCA D 023.	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.

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33.	IMCA D 023; Section 4 <i>Diver Launch and Recovery System (LARS)</i> ; Items 10.2 & 10.3 <i>Overall Testing</i> ; plus, two new items.	Updated to align with the revised IMCA D 018, Detail Sheet 22.1.	To maintain the consistency of IMCA guidance and reduce the need for overload testing.
34.	IMCA D 023; Section 4 <i>Diver Launch and Recovery System (LARS)</i> ; Item 13.1, <i>Breathing Apparatus – Provision</i> .	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.
35.	IMCA D 023; Section 4 <i>Diver Launch and Recovery System (LARS)</i> ; Item 13.2 <i>Breathing Apparatus – Umbilical Supply</i> .	Text revised to read: “If emergency air for the supervisor (and winch operator if relevant) is umbilical supplied, it should be fed from cylinder stored compressed air. The cylinder stored compressed air source for the umbilical supplied surface breathing apparatus should be separate to compressed air sources intended for the use of divers. SCBA with suitable capacity and endurance should also be available to allow escape.”	It would be very difficult to ensure that in an emergency situation (e.g., during a fire or H ₂ S alert) the air intake for a compressor providing umbilical supplied emergency air will always be situated in a contaminant free zone.
36.	IMCA D 023; Section 5 <i>Diving Basket</i> ; Item 1.3 <i>Structure and Lift Point</i> .	Text revised to read: “For any diving basket manufactured after 1 January 2014, documentation should be available showing clearly the designed SWL which should be equal to or greater than the gross weight. Gross weight = fully laden with divers and equipment.”	To improve clarity.
37.	IMCA D 023; Section 5 <i>Diving Basket</i> ; Item 1.4.	The structure and lift point paintwork and corrosion requirements have been split into two separate line items. The paintwork requirement has been changed from a ‘Need A’ to a ‘Need B.’ The text of the two requirements in the separate line items read: 1.4 “Paintwork should be in good condition.” 1.5 “The structure and lift point should be free from serious corrosion.”	To provide greater clarity on diving basket structure and lift point paintwork and corrosion requirements.
38.	IMCA D 023; Section 5 <i>Diving Basket</i> ; new Item (1.11) <i>Umbilical Guide</i> .	New requirement inserted containing the following text: “For DP diving operations diving baskets should be fitted with umbilical guides capable of preventing the passage of stoppers on the diver(s) umbilical(s).”	Umbilical guides are considered essential components of diving baskets to be used for DP diving operations.

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39.	IMCA D 023 ; Section 5 <i>Diving Basket</i> ; Item 1.12 <i>Weight Marking</i> .	Text revised to read: “The SWL of the diving basket should be clearly marked on it. The tare weight (i.e., unladen) should also be marked on it.”	To improve clarity.
40.	IMCA D 023 ; Section 5 <i>Diving Basket</i> ; new Item (1.12) <i>Emergency Release</i> .	New requirement inserted containing the following text: “In an emergency, it should be possible for a diver to release his umbilical from any umbilical guide fitted to a diving basket and free himself from the diving basket.”	During an emergency it may be necessary for a diver to release himself from the diving basket.
41.	IMCA D 023 ; Section 5 <i>Diving Basket</i> ; Item 1.14 <i>Load Testing</i> .	Text revised to read: “Load test of lifting point (this also applies to secondary lift points) at 1.5 times designed SWL of the diving basket in last 12 months.”	To align with the IMCA D 018 man-riding basket load testing regime (Detail Sheet 3).
42.	IMCA D 023 ; Section 5 <i>Diving Basket</i> ; new Item (1.18) <i>Load Testing</i> .	NDE of lifting points or pad eyes before and after test in the last 12 months made a separate stand-alone requirement.	To improve clarity.
43.	IMCA D 023 ; Section 5 <i>Diving Basket</i> ; Subsection 2 <i>Emergency Cylinder</i> .	Text of Section 2 heading revised to read, “Emergency Cylinder(s) – Note: Nitrox may be used in place of air in certain circumstances. If this is being used, then substitute ‘nitrox’ for the word ‘air’ in the following section”.	Consideration of nitrox should be included in this section of IMCA D 023 .
44.	IMCA D 023 ; Section 5 <i>Diving Basket</i> ; Item 2.1 <i>Cylinder</i> .	Text revised to include the following: “Note: For nitrox diving operations the emergency cylinder(s) should be filled with the breathing gas mix specified in the diving contractor’s operating procedures.” Updated to align with the guidance contained in IMCA D 048 .	To maintain the consistency of IMCA guidance.
45.	IMCA D 023 ; Section 6 <i>Wet Bell</i> ; Item 1.3 <i>Structure and Lift Point</i> .	Text revised to read: “For any wet bell manufactured after 1 January 2014, documentation should be available showing clearly the designed SWL which should be equal to or greater than the gross weight. Gross weight = fully laden with divers and equipment.”	To improve clarity.

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46.	IMCA D 023 ; Section 6 <i>Wet Bell</i> ; Item 1.4.	The structure and lift point paintwork and corrosion requirements have been split into two separate line items. The text of the two requirements in the separate line items read: 1.4 “Paintwork should be in good condition.” 1.5 “The structure and lift point should be free from serious corrosion.”	To provide greater clarity on wet bell structure and lift point paintwork and corrosion requirements.
47.	IMCA D 023 ; Section 6 <i>Wet Bell</i> ; Item 1.12 <i>SWL</i> .	Item renamed “Weight Marking.” Text of requirement revised to read: “The SWL of the wet bell should be clearly marked on it. The tare weight (i.e., unladen) should also be marked on it.”	To improve clarity.
48.	IMCA D 023 ; Section 6 <i>Wet Bell</i> ; Item 1.14 <i>Load Testing</i> .	Text revised to read: “Load test of lifting point (this also applies to secondary lift points) at 1.5 times designed SWL of the wet bell in last 12 months.”	To align with the IMCA D 018 man-riding basket load testing regime (Detail Sheet 3).
49.	IMCA D 023 ; Section 6 <i>Wet Bell</i> ; new Item (1.16) <i>Load Testing</i> .	NDE of lifting points or pad eyes before and after test in the last 12 months made a separate stand-alone requirement.	To improve clarity.
50.	IMCA D 023 ; Section 6 <i>Wet Bell</i> ; Subsection 2 <i>Air Cylinder(s)</i> .	Text of Subsection 2 heading revised to read, “Onboard Cylinder(s)”.	Heading needs to allow for the use of nitrox.
51.	IMCA D 023 ; Section 6 <i>Wet Bell</i> ; Item 2.1 <i>Cylinders</i> .	Text revised to include the following: “Note: For nitrox diving operations the emergency onboard cylinder(s) should be filled with the breathing gas mix specified in the diving contractor’s operating procedures.” Updated to align with the guidance contained in IMCA D 048 .	To maintain the consistency of IMCA guidance.
52.	IMCA D 023 ; Section 6 <i>Wet Bell</i> ; Item 3.3 <i>Air Sources/ Supplies – To the Diver(s)</i> .	Text revised to add the qualification “... to the degree that the diver’s safety is impaired.”	Should a diver’s supply line fail, no matter the arrangement adopted, it may still be possible to detect some slight degree of “interference” for another diver.

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53.	IMCA D 023 ; Section 6 <i>Wet Bell</i> ; Item 4.8 <i>Electrical Testing</i> . Note: This change affects all electrical and component testing requirements in IMCA D 023 .	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.
54.	IMCA D 023 ; Section 7 <i>Wet Bell Main Umbilical</i> ; Item 4.1 <i>Electrical Components</i> . Note: This change affects all electrical and component testing requirements in IMCA D 023 .	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.
55.	IMCA D 023 ; Section 8 <i>Diver Heating System</i> ; Item 6.2 <i>Pipework</i> .	Title of item amended to “Pipework Testing.” Text revised to read: “Internal pressure test of all valves, pipework, fittings, etc. to 1.5 times maximum working pressure when new.”	To improve consistency of language.
56.	IMCA D 023 ; Section 8 <i>Diver Heating System</i> ; Item 6.5 <i>Gauges</i> .	Title of item amended to “Gauge Testing.”	To improve consistency of language.
57.	IMCA D 023 ; Section 8 <i>Diver Heating System</i> ; Item 6.6 <i>Electrical Testing</i> . Note: This change affects all electrical and component testing requirements in IMCA D 023 .	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.
58.	IMCA D 023 ; Section 9 <i>Divers’ Umbilicals</i> ; Item 3.1 <i>Electrical Components</i> . Note: This change affects all electrical and component testing requirements in IMCA D 023 .	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.

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59.	IMCA D 023 ; Section 10 <i>Divers' Personal Equipment</i> ; Note and Items 1, 1.7 & 1.8.	Text of Note revised to read: <i>"Note: This section covers primary breathing systems e.g., helmets, bandmasks and full-face masks; open circuit bail-out systems (including first-stage regulators), and cylinders taken under water, but does not include supply systems pipework or other items such as suits, gloves etc. which should meet normal standards for personal protective equipment."</i> Title of Item 1 revised to read: <i>"Personal Breathing Apparatus (used under water)."</i> Description of Items 1.7 and 1.8 revised to read: <i>"Personal Breathing Apparatus Testing."</i>	To cover all divers' personal breathing apparatus including first stage regulators.
60.	IMCA D 023 ; Section 10 <i>Divers' Personal Equipment</i> ; Item 2.2 <i>Endurance</i> .	Text revised to read: <i>"The cylinder(s) must have sufficient endurance to allow the diver to return to a place of safety. This will normally mean that a calculation should be available showing that the capacity of the cylinder(s) at the maximum depth of diving will allow breathing gas for 1 minute for every 10 metres of umbilical deployed. This calculation should be carried out using 40 l/min as a minimum consumption."</i>	To clarify and simplify the emergency gas supply (bail-out) cylinder endurance requirement.
61.	IMCA D 023 ; Section 10 <i>Divers' Personal Equipment</i> ; new Subsection 4 <i>Diver Harnesses</i> added.	Four line items added to bring IMCA D 023 into alignment with the requirements of IMCA D 018 , Detail Sheet 35.	To align with the IMCA D 018 (Detail Sheet 35.1.
62.	IMCA D 023 ; Section 11 <i>Compressors, Pumps, Etc.</i> Item 6.3 <i>Receiver Testing</i> .	Updated to align with the revised IMCA D 018 , Detail Sheet 26.	To maintain the consistency of IMCA guidance and reduce the need for overpressure testing.
63.	IMCA D 023 ; Section 11 <i>Compressors, Pumps, Etc.</i> Item 7.2 <i>Electrical Testing</i> . Note: This change affects all electrical and component testing requirements in IMCA D 023 .	Text revised to read: <i>"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".</i>	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.

	Location of Items in IMCA D 023 Rev. 1 Edition	Summary of Changes Made	Reason
64.	IMCA D 023 , Section 12 <i>High Pressure Air and Gas Storage</i> ; Item 2.9 <i>Lifting Equipment (Quad Slings etc.) Testing</i> .	Text revised to read: “Load test at 1.5 times maximum SWL in the last 12 months or carry out alternative examination/testing as required by the competent person”.	To introduce the alternative of undertaking examination/testing as required by the competent person.
65.	IMCA D 023 ; <i>Cylinder Testing</i> . Note: This change affects certain cylinder testing requirements in IMCA D 023 .	To revise cylinder 2 yearly testing periodicities to 2.5 years and 4 yearly testing periodicities to 5 years.	To align with recognised international standards.
66.	IMCA D 023 – 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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