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***Complete Support & Testing of Underwater Diving Equipment***

# Basic Emergency Procedures
# For all Kirby Morgan Helmets and KMB 18/28 Band Masks

Mike Ward – Revised May 01, 2009

The emergency procedures listed are primarily intended as the diver's first response to a situation or event that could be life threatening if swift immediate action is not taken. All emergency procedures assume that the helmet is being dived with two independent breathing supplies to the diver umbilical so that one is in use, and one is in standby. In addition it is also assumed that the helmet is being used with a fully functional emergency gas supply that is lined up to the side block so that only the side bock emergency valve needs to be opened to supply gas to the side block. Surface supply systems must be capable of delivering the required pressure and volume to satisfy the diver respiratory requirements. All users of KMDSI Helmets and Full-Face masks should be professionally trained in the helmets use, set-up, adjustment procedures, as well as all applicable user level maintenance. All persons involved in the diving operations should memorize the emergency procedures and protocol. All topside support personnel should be trained and qualified to perform the duties for which they are being employed. These emergency procedures list only what the diver should do. Each organization / company should develop policy, emergency, and operational procedures in accordance with (IAW) governing regulations and / or industry standards and consensus and the guidelines given by the manufacturer of the equipment.

The guidelines that dictate when or how a diver should abort a dive must be established by the organization /company. These guidelines need to be based on governing regulations, industry and consensus guidelines. In some cases, the diver may be the one making the decision to abort and in other cases, (i.e. deep air, mixed gas, decompression obligation) the decision might be made by the topside supervisor. Regardless, all users must have a plan and protocol, and all members of the dive team must know the plan and protocol. The overall responsibility rests with the Diving Supervisor.

1. **Loss of Communications:**

   a. Revert to line-pull signals and abort the dive when directed by topside or in accordance with (IAW) organizational / company protocol.

## 2. Loss of Umbilical Gas Supply:

   a. Diver shifts to the man worn emergency gas system (EGS), notify topside of gas loss if communications are still functional or use line pull signals.

   b. Diver checks umbilical clear, surface slowly if ascent line is available or standby to surface (IAW) organizational or company protocol.

   c. If surface supply is restored, the diver should shift back to the primary source by closing the EGS valve on the side block, then notify topside and abort as directed.

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## 3. Severed or Damaged Gas Supply Umbilical

   a. Diver open EGS valve on the helmet side block.

   b. If communications are functional, notify topside.

   c. Check umbilical clear and abort dive when directed from topside or IAW organizational or company protocol.

## 4. Demand Regulator Fails (no demand function)

   a. Crack open steady flow defogger valve 1/4 -1/2 turn, if still no air, diver opens EGS valve then and open and close steady flow as necessary, notify topside.

   b. Back out counter clockwise 1-2 turns on regulator adjustment knob, if demand function resumes, notify topside then try the normal demand supply by securing the EGS valve and steady flow. If normal demand mode function does not function, go back on the EGS check the umbilical clear and stand by to abort. Abort IAW instructions from topside.

**Note:** If the diver has to stay on the EGS while using the steady flow, the diver should open steady flow during inhalation only and close during exhalation to conserve air. Keep in mind in this situation the diver stops everything and just concentrates on getting to a place where normal breathing can be restored.

## 5. Severe Demand Regulator Free Flow:

a. Diver adjusts regulator adjustment knob in (clockwise) until free flow stops or diminishes.

b. If free flow does not stop, diver adjusts regulator in fully to lessen severity and augments supply as necessary using the steady flow defogger valve.

c. Notify topside, check umbilical clear and abort dive (IAW) organizational or company protocol and stand by to abort dive.

## 6. Major Water leakage into the helmet

a. For all KMDSI Helmets and Band Masks except the SL-27helmet, maintain the helmet in a face forward slight down position and use the steady flow defogger ¼-1/2 turn as necessary to dewater the helmet.

b. The SL-27 helmet has the dewatering valve on the lower left side of the helmet, the diver should tilt the his head so the left side of the helmet is lower allowing all water to pool in the lower left side, then use the steady flow defogger ¼ to ½ turn open to dewater the helmet.

c. Notify topside, check umbilical clear and abort dive (IAW) organizational or company protocol and stand by to abort dive.

**Warning:** All surface supply systems must be capable of supplying at least two different sources of breathing gas to the diver. In addition, the diver must always have a fully functional man worn EGS system that can get the diver to the surface or to a point were breathing supply can be re-established. In cases where the hazard of the dive is such that the umbilical might become entangled or pined, a spare umbilical and the proper wrenches must be available for emergency replacement by the standby diver.