

 <b>CAMERON</b>	DRAWN BY Paul R Perez	DATE 12-06-99	REVISION  A1	Controls Engineering EB 885 C Page 1 of 1
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## Deadman/AMF System Surface Testing

The DEADMAN/AMF SYSTEM is an optional, stand-alone safety system included in some Mux Drilling Control Systems. It performs a customer defined pre-programmed sequence of BOP function operations in response to a catastrophic event, such as a break or separation of the riser somewhere above the LMRP.

The DEADMAN/AMF SYSTEM consists of a dedicated hydraulic control fluid supply, stand alone electrical power source (batteries) and a dedicated Printed Circuit Board mounted in the multiplex drilling control system subsea electronics module (SEM).

The DEADMAN/AMF SYSTEM activates when all of the following conditions are present simultaneously.

- The DEADMAN/AMF SYSTEM is "Armed"
- Loss of communication between all SEMs (Blue and Yellow Pods)
- Loss of electrical power & communication from the surface
- Loss of hydraulic conduit pressure  
i.e. Hydrostatic pressure and hydraulic conduit pressure are equal or less

When deployed subsea the hydrostatic head transducer senses ambient sea pressure. While on the surface there is no ambient pressure on the hydrostatic head transducer and premature DEADMAN/AMF SYSTEM activation can occur under certain conditions.

When deployed subsea, both the hydrostatic head transducer and the hydraulic conduit pressure sensors provide pressure readings to the DEADMAN/AMF SYSTEM. The DEADMAN/AMF SYSTEM is programmed to assume the riser has parted when the Hydraulic Conduit Pressure is equal to or less than the Hydrostatic Head Pressure. Additionally, an out-of-range transducer is considered defective and is ignored by the DEADMAN/AMF SYSTEM.

Due to normal transducer tolerances it is possible that at zero pressure the transducer will provide an output that is less than 4 ma (=819 counts). If any transducer reads below 778 counts, the system interprets this as a defective transducer. The DEADMAN/AMF SYSTEM is programmed to ignore a defective Hydrostatic Head Transducer and will activate the DEADMAN/AMF if all other required conditions are met.

To prevent inadvertent activation the following steps should be taken *prior* to activating or testing the DEADMAN/AMF SYSTEM on the surface.

1. Connect the PETU to the modem in the communication control panel.
2. Select the debug program mode and locate the hydrostatic head transducer. Note the raw value.
3. The transducer is functioning properly if the raw value is >778. (Nominal reading at 0 psi = 819)
4. Connect a hand pump to the Hydrostatic Head Transducer.
5. Watching the PETU readings, apply approximately 50 psi (approximately 852 counts) to the Hydrostatic Head Transducer.
6. Maintain this pressure while performing the remainder of the DEADMAN/AMF SYSTEM testing.

