

From: Leach, Gary (Houston)
Sent: Monday, May 17, 2010 10:39 PM
To: Boughton, Geoff (Houston)
Subject: FW: MUX Batteries

From: Leach, Gary (Houston)
Sent: Monday, May 17, 2010 5:37 PM
To: Ambrose, Bill (Houston)
Subject: FW: MUX Batteries

From: Smith, Pharr (Houston)
Sent: Thursday, May 13, 2010 11:42 AM
To: Newman, Steven (Geneva)
Cc: Redd, Eddy (Houston); Bobillier, Arnaud (Geneva); Tranter, Paul (Geneva); Turlak, Rob (Houston); Leach, Gary (Houston); Pelley, Darrel (Houston); Rose, Adrian (Houston); McMahan, Larry (Houston)
Subject: MUX Batteries

Steven

Answers below from my subsea dynamic duo: Rob Turlak and Gary Leach. Let us know if you need anything else.

Thanks

Pharr

-----Original Message-----

From: Newman, Steven (Geneva)
Sent: Thursday, May 13, 2010 9:25 AM
To: Smith, Pharr (Houston)
Subject: MUX Batteries

Pharr,

I understand (as a result of yesterday's hearing) that the batteries on the yellow pod were "dead"...

-charge had dropped from 27 to 18 - I don't know the units, either Amps or mili-Amps? Volts DC

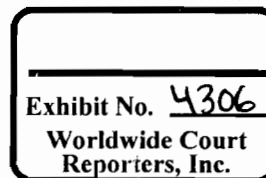
-what function do these batteries serve? These provide power to the solenoids and the pressure transducers utilized by the deadman once the pod loses power. There is another battery (9VDC) that powers the processors.

-is there any redundancy, within the yellow pod, for these batteries? There is no redundancy for these batteries in each pod. The redundancy is that each pod is independent of the other.

-are these batteries kept charged as long as the system is connected? No, these are not rechargeable batteries. They are replaced once a year or after 32 actuations, whichever comes first.

-is the charge level of these batteries monitored while the system is deployed? No, it is not. It could be done, but would place an additional drain on the batteries.

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-what is the expected level of charge and what are the units? As the discharge rate of these Lithium batteries is very steep, there is no published criteria of which I am aware, but I would expect the battery packs to provide 90% of their listed charge, i.e. 27VDC pack to provide at least 24VDC and the 9VDC to provide at least 8VDC. The solenoids require 19-21VDC to energize and the processor requires 5.5VDC.

-what is the minimum level of charge for the batteries to carry out their intended function? The solenoids require 19-21VDC to energize and the processor requires 5.5VDC.

-did we do anything, either on the rig (ie hitting the EDS button) or in the aftermath, which would have drained these batteries in the two weeks between the event and the eventual recovery and testing of the pod? The actuation of the deadman system would effect some drain on the system. After a short period of time after actuation, the deadman system would be turned off, no longer actively draining the batteries.

-does the drained charge level on these batteries give us any information about which pod might have been selected at the time of the event? No, the deadman fires from both pods.

-could there be any connection between drained batteries and failed solenoid valve(s)? No

Any other info associated with these batteries I need to know?

Thanks
SN

Sent by Electronic Wizardry

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