

Silver

MIT/IL
Apollo Guidance and Navigation
System Test Group Memo No. 886 (e)

To: D. G. Hoag and J. P. Green
From: G. L. Silver
Date: 13 October 1966
Subject: G&N OPERATIONS DURING SIMULATED LM BATTERY
SWITCHOVER, DESCENT TO ASCENT

Reference: GAEC letter LLR 390-98 dated 5 October 1966

A simulated LM battery switchover test was performed at MIT/IL STG lab using prototype PGNS 600 which included LGC 200M, an early non-flight configuration computer.

The test was slightly more severe than the referenced letter portrayed, in that the voltage transient leading edge was not as clean as portrayed by the referenced letter enclosure (2). The recovery time constant was also slightly longer than the GAEC sketch.

The prototype system passed the test without apparent problems or degradation. However, had a flight configuration computer been used, a RESTART should have occurred, triggered by computer "Voltage Fail" alarm. This alarm should occur when the input voltage is lower than 21.5 vdc.

The GAEC letter or enclosures did not specify the primary frequency of the 2 VP-P ripple. Therefore, the test was run with frequencies of 100, 500, 1000, 3000, 10,000 cycles per sec.

The test results should not be interpreted as a blanket statement that all LM G&N systems could withstand this low voltage transient, but rather that the test could be safely performed on the flight system expected to experience this transient.

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