This addendum updates ATM 274G to include changes in the ASE as follows:

A. Use of BxA designed 16 Channel Mux

B. Use of BxA designed A/D Converter

C. The 16 Channel Mux EMI modification as covered by CRD numbers 67014, 60696, 60694, 60715, 60695, 60713, 60697, and 60698.

D. The ASE/CSE Initial Reset Modification as covered by CRD's 60727 through 60732 and 60736.

Attachment I is the update ALSEP Reliability Status Record.

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RELIABILITY PREDICTION

The Reliability Prediction for the new 16 Channel Multiplexer is
.9999510 (per ATM 912). The A/D Converter Prediction is .9999343.
The overall reliability for the M & A/D is calculated to be .9998853,
which is approximately equal to the design goal of .99990. The above
predictions are based on an intended lunar mission of launch, deploy-
ment, and 30 hours operation and 8730 hours standby.

The old Mux and A/D prediction (which was incorrect) was .999948.
Dynatronics recalculated this same number to be .995859.

To correct and update the Central Station Electronic (CSE) prediction
of .999596 (dated 30 Sept. 67), find the value of "Q" of the CSE by

$$1 - .999596 = Q_{CSE} = .000404$$

Note: for these orders of magnitude

$$Q = 1 - R$$

Find "Q" of the old Mux and A/D as

$$Q_{old} = 1 - .999948 = .000052$$

Subtract the Q for the old Mux from the Q_{CSE} to find Q'_{CSE}

$$Q'_{CSE} = .000404 - .000052 = .000352$$

Q'_{CSE} is the failure rate for the Central Station electronic less the Mux and A/D.

Determine Q_{new} of the new Mux as:

$$Q_{new} = 1 - .999885 = .000115$$

The new Q''_{CSE} is:

$$Q''_{CSE} = Q'_{CSE} + Q_{new}$$

$$= .000115 + .000352 = .000467$$

The new prediction of C/SE of ASE/CSE is:

$$1 - .000467 = R = .999533$$

ATTACHMENT I

Remove page 5 and 21 (ALSEP RELIABILITY STATUS RECORD) dated 30 Sept. 67 (page 21) and 1 Oct. 67 (1age 5) and replace with attached sheets dated 12 Aug. 71.