

These deposits represent less than a single layer (monolayer) of aluminum distributed over the surface of the silica wrap of the uncouples and are not expected to have any adverse, long term effect on the F-7 RTG performance. Its performance is expected to be within the database of the previous RTGs. The interior of the F-7 thermopile (heater cavity) was inspected at Mound when the EHS was removed in preparation for fueling. There was no evidence of any deposits or foreign material. Final confirmation that the isolation resistance was stable and acceptable was obtained after stable performance data were observed during and after thermal vacuum testing of the F-7 as described in Section 5.2.5.

5.2 FLIGHT RTG ACCEPTANCE TESTING

5.2.1 IAAC Assembly and Performance Testing

Argon Performance (Pre-Vacuum)

After ETG acceptance testing at the Lockheed Martin Valley Forge facility the units were fueled at Mound Laboratories. The fueling operation is performed in the Inert Atmosphere Assembly Chamber (IAAC). Fueling takes place in an argon atmosphere and the first electrical performance data are obtained at this time. Table 5.2.1-1 summarizes the stabilized data which is taken with the upper end dome off.

Table 5.2.1-1. IAAC Performance (Dome Off) Argon Environment

	F-5 RTG	F-2 RTG	F-7 RTG	F-6 RTG
Date	12/7/84	2/10/96	9/4/96	11/16/96
Hour	1000	1700	0700	0700
Heat Input, watts	4459.5	4435	4435	4437
Power Output, watts				
As Measured	174.7	168.0	169.5	158.3
Corrected to Pins	175.4	168.6	170.1	158.9
Load Voltage, volts	30.00	30.012	29.98	30.04
Open Circuit Voltage, volts	41.65	41.793	41.615	40.681
Current, amps	5.823	5.597	5.653	5.270
Internal Resistance, ohms	2.000	2.105	2.053	2.019
Average RTD Temperature, °C	181.3	177.7	179.9	179.6
Bell Jar Temperature, °C	45.3	37	35.5	33.6
Isolation Resistance to Shell (2 minutes), Ohms	—	60.7K	58.3K	66.5K