

TABLE E. DEVELOPMENTS IN RTG TECHNOLOGY

| PARAMETERS | SNAP-3B | SNAP-9A | SNAP-19 | SNAP-27 | TRANSIT-RTG | MHW-RTG | GPHS-RTG |
|---|------------|-------------|--------------------|-------------------------|------------------|------------------|------------------|
| MISSION | TRANSIT 4 | TRANSIT 5BN | PIONEER | APOLLO | TRIAD | VOYAGER | GALILEO |
| BOM POWER ^a PER RTG, W(E) | 2.7 | 26.8 | 40.3 | 73.4 | 35.6 | 158.0 | 292.0 |
| THERMOELECTRIC MATERIAL | PBTE 2N/2P | PBTE 2N/2P | PBTE 2N/ TAGS-8 | PBTE 3N/3P | PBTE 2N/3P | SIGE | SIGE |
| PU-238 FUEL FORM | METAL | METAL | PMC ^b | OXIDE MICRO- SPHERES | PMC ^b | PRESSED OXIDE | PRESSED OXIDE |
| CONVERSION EFFICIENCY, % | 5.1 | 5.1 | 6.2 | 5.0 | 4.2 | 6.6 | 6.6 |
| SPECIFIC POWER W(E)/KG | 1.29 | 2.2 | 3.0 | 2.3 ^c | 2.6 | 4.2 | 5.2 |

Source Gary Bennett, James J. Lombardo, and Bernard J. Rock, *U.S. Radioisotope Thermoelectric Generator Space Operating Experience (June 1961-December 1982)*, Paper presented before the 18th Intersociety Energy Conversion Engineering Conference, Orlando, Florida, August 21-26, 1983.

^aBeginning-of-Mission.

^bPlutonia Molybdenum Cermet. (Cermet: a heat-resistant alloy formed by compacting and sintering a metal and a ceramic substance.)

^cThe SNAP-27 Specific Power is calculated with the mass of the fuel cask included.

The table above indicates changes and improvements in the RTG technology from early SNAP-3 devices to the GPHS = RTG to be used on the GALILEO mission.